

# STIC Search Report

EIC 1700

STIC Database Tracking Number: 10/780436

**TO:** Dawn Garrett  
**Location:**  
Art Unit : 1774  
January 24, 2006

**Case Serial Number:** 10/780436

**From:** Mei Huang  
**Location:** EIC 1700  
REMSEN 4B28  
**Phone:** 571/272-3952  
**Mei.huang@uspto.gov**

## Search Notes

Examiner Garrett,

If you have any questions or if you would like to refine the search query, please feel free to contact me.

Thank you for using STIC services!

Mei Huang

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: DAWN GARRETT Examiner #: 76107 Date: 1/23/2006  
 Art Unit: 1774 Phone Number 2-1523 Serial Number: 10/780,436  
 Mail Box and Bldg/Room Location: Rensselaer/OC 79 Results Format Preferred (circle): PAPER  DISK  E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Anthracene Derivative Host Having Ranges of Dopants

Inventors (please provide full names): Michele Ricks, Tukaram Hashwani

Jeffrey Spindler, Lelia Cosimides

Earliest Priority Filing Date: 2/17/2004

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search formula (I) attached

SCIENTIFIC REFERENCE BR  
Sci & Tech Inf. Ctr

JAN 24 2006

Pat. & T.M. Office

STAFF USE ONLY		Type of Search	Vendors and cost where applicable
Searcher: <u>MQH</u>		NA Sequence (#):	STN <input checked="" type="checkbox"/>
Searcher Phone #:		AA Sequence (#):	Dialog <input type="checkbox"/>
Searcher Location:		Structure (#):	Questel/Orbit <input type="checkbox"/>
Date Searcher Picked Up:		Bibliographic:	Dr. Link <input type="checkbox"/>
Date Completed: <u>1/24/06</u>		Litigation	Lexis/Nexis <input type="checkbox"/>
Searcher Prep & Review Time:		Fulltext	Sequence Systems <input type="checkbox"/>
Clerical Prep Time:		Patent Family	WWW/Internet <input type="checkbox"/>
Online Time:		Other	Other (specify) <input type="checkbox"/>

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FILE 'REGISTRY' ENTERED AT 16:41:57 ON 24 JAN 2006  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
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=> d his ful

(FILE 'HOME' ENTERED AT 15:18:34 ON 24 JAN 2006)

FILE 'HCAPLUS' ENTERED AT 15:18:45 ON 24 JAN 2006

E US20050181232/PN

L1 1 SEA US2005181232/PN  
SEL RN  
D ALL L1

FILE 'REGISTRY' ENTERED AT 15:20:23 ON 24 JAN 2006

L2 9 SEA (123847-85-8/BI OR 175606-05-0/BI OR 27130-32-1/BI  
OR 517-51-1/BI OR 55035-43-3/BI OR 676120-56-2/BI OR  
80663-92-9/BI OR 862501-00-6/BI OR 862501-01-7/BI)  
D SCA

FILE 'HCAPLUS' ENTERED AT 15:42:25 ON 24 JAN 2006

L3 1 SEA L1 AND L2  
D IALL HITSTR

FILE 'REGISTRY' ENTERED AT 15:53:33 ON 24 JAN 2006

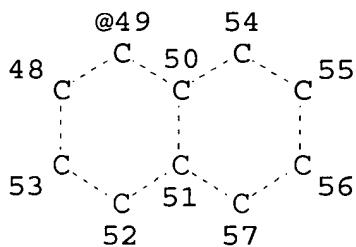
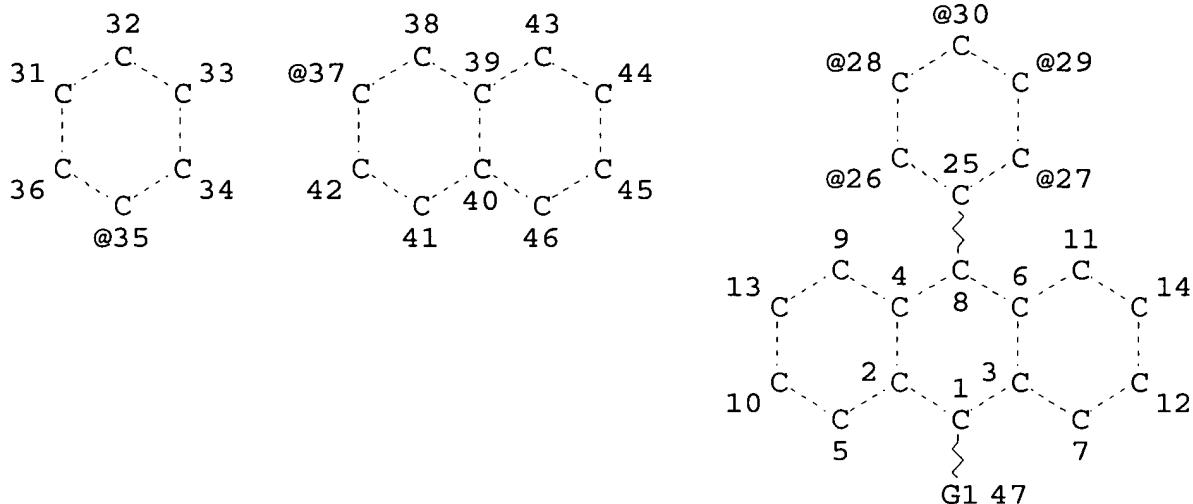
L5 1 SEA 862501-00-6/RN  
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L8 STR L6  
L9 7 SEA SSS SAM L8  
D SCAN  
D L9 QUE STAT  
L10 STR L8  
L11 4 SEA SSS SAM L10  
D SCA  
L12 73 SEA SSS FUL L10  
SAV L12 GAR436/A

FILE 'HCAPLUS' ENTERED AT 16:32:43 ON 24 JAN 2006

L13 37 SEA L12  
 L14 89170 SEA ELECTROLUM!N OR ORGANOLUM!N OR (ELECTRO OR ORGANO OR  
 ORG#) (2A)LUM!N? OR LIGHT(2A)(EMISSION? OR EMIT?) OR EL  
 OR E(W)L OR OLED OR L(W)E(W)D  
 L15 26 SEA L13 AND L14  
 L17 0 SEA L13 AND L16

=> d 110 que stat

L10 STR



VAR G1=37/49  
 VPA 35-27/29/30/28/26 U  
 NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC 37 1 48  
NUMBER OF NODES IS 47

STEREO ATTRIBUTES: NONE

=> fil hcap  
FILE 'HCAPLUS' ENTERED AT 16:43:18 ON 24 JAN 2006  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
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=> d 115 1-26 ibib abs hitstr hitind

L15 ANSWER 1 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2006:9504 HCAPLUS  
TITLE: High performance white **light-emitting** OELD  
INVENTOR(S): Hatwar, Tukaram K.; Spindler, Jeffrey P.; Young, Ralph H.  
PATENT ASSIGNEE(S): Eastman Kodak Company, USA  
SOURCE: U.S. Pat. Appl. Publ., 28 pp.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	X
-----	-----	-----	-----	-----
US 2006003184	A1	20060105	US 2004-882834	200407 01
PRIORITY APPLN. INFO.:			US 2004-882834	200407 01

AB A broadband-emitting org. electroluminescent device (OELD) having an anode and a cathode spaced from the anode includes a 1st **light-emitting** layer provided over the anode and contg. a 1st host material and a 1st **light-emitting** material, wherein the 1st host material is a mixt. of  $\geq 1$  mono-anthracene derivs. and  $\geq 1$  arom. amine

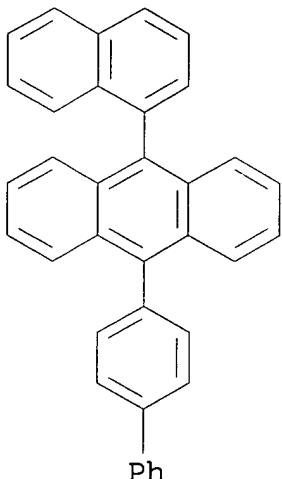
derivs., wherein the mono-anthracene deriv.(s) being provided in a vol. fraction range of 5% to 50% relative to the total host vol., and the arom. amine deriv.(s) being provided in a vol. fraction range of 50% to 95% relative to the total host vol., and a 2nd **light-emitting** layer provided over or under the 1st **light-emitting** layer.

IT 741255-70-9

RL: DEV (Device component use); USES (Uses)  
(host of blue-emitting layer; high performance white  
**light-emitting** OELD)

RN 741255-70-9 HCAPLUS

CN Anthracene, 9-[1,1'-biphenyl]-4-yl-10-(1-naphthalenyl)- (9CI) (CA  
INDEX NAME)



INCL 428690000; 428917000; 428212000; 313504000; 313506000; 257102000;  
257103000; 257E51024

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 74

ST white **light emitting** org electroluminescent device

IT Electroluminescent devices  
(high performance white **light-emitting** OELD)

IT Fluoropolymers

RL: DEV (Device component use); USES (Uses)  
(high performance white **light-emitting** OELD)

IT 37271-44-6

RL: DEV (Device component use); USES (Uses)

(cathode; high performance white **light-emitting**  
OELD)

IT 80663-92-9  
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)  
(dopant blue-emitting layer; high performance white **light-emitting** OELD)

IT 55035-43-3, 4-(Di-p-tolylamino)-4'-(di-p-tolylamino)styryl]stilbene  
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)  
(dopant in blue-emitting layer; high performance white **light-emitting** OELD)

IT 850797-15-8  
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)  
(dopant in yellow-emitting layer; high performance white **light-emitting** OELD)

IT 2085-33-8, al 8q  
RL: DEV (Device component use); USES (Uses)  
(electron transporting layer; high performance white **light-emitting** OELD)

IT 50926-11-9, ITO  
RL: DEV (Device component use); USES (Uses)  
(high performance white **light-emitting** OELD)

IT 123847-85-8, 4,4'-Bis[N-(1-naphthyl)-N-phenylamino]biphenyl  
RL: DEV (Device component use); USES (Uses)  
(hole transporting layer and host of yellow-emitting layer; high performance white **light-emitting** OELD)

IT 741255-70-9  
RL: DEV (Device component use); USES (Uses)  
(host of blue-emitting layer; high performance white **light-emitting** OELD)

L15 ANSWER 2 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2005:1333963 HCAPLUS  
DOCUMENT NUMBER: 144:78065  
TITLE: Array of **light-emitting**  
OLED microcavity pixels  
INVENTOR(S): Ricks, Michele L.; Hatwar, Tukaram K.; Spindler,  
Jeffrey P.; Winters, Dustin L.; Shore, Joel D.  
PATENT ASSIGNEE(S): Eastman Kodak Company, USA  
SOURCE: U.S. Pat. Appl. Publ., 36 pp.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	-----
-----	-----	-----	-----	-----
US 2005280008	A1	20051222	US 2004-869115	200406 16
PRIORITY APPLN. INFO.:			US 2004-869115	200406 16

AB A color OLED display has at least three different colored microcavity pixels, each including a light reflective structure and a semi-transparent structure includes an array of light-emitting microcavity pixels each having one or more common org. light-emitting layers, said light-emitting layer(s) including first and second light-emitting materials, resp., that produce different light spectra, the first light-emitting material producing light having a first spectrum portion that extends between first and second different colors of the array, and the second light-emitting material producing light having a second spectrum portion that is substantially contained within a third color that is different from the first and second colors, and each different colored pixel being tuned to produce light in one of the three different colors whereby the first, second, and third different colors are produced by the OLED display.

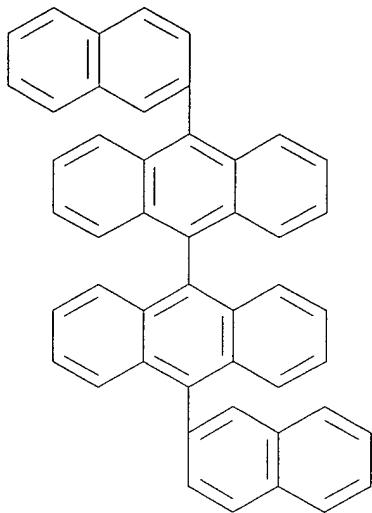
IT 331749-31-6 667940-24-1 667940-32-1

667940-34-3 862501-00-6

RL: TEM (Technical or engineered material use); USES (Uses)  
(host; array of light-emitting OLED  
microcavity pixels contg.)

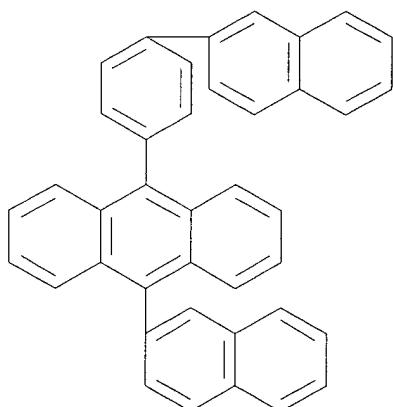
RN 331749-31-6 HCAPLUS

CN 9,9'-Bianthracene, 10,10'-di-2-naphthalenyl- (9CI) (CA INDEX NAME)



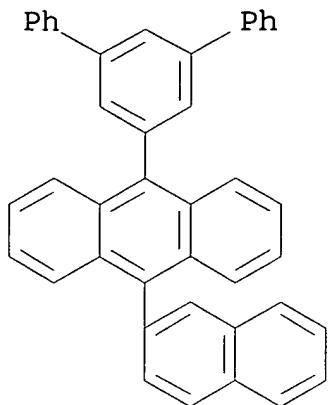
RN 667940-24-1 HCPLUS

CN Anthracene, 9-(2-naphthalenyl)-10-[4-(2-naphthalenyl)phenyl]- (9CI)  
(CA INDEX NAME)



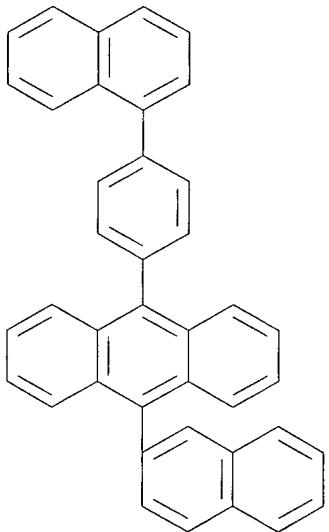
RN 667940-32-1 HCPLUS

CN Anthracene, 9-(2-naphthalenyl)-10-[1,1':3',1'''-terphenyl]-5'-yl-  
(9CI) (CA INDEX NAME)



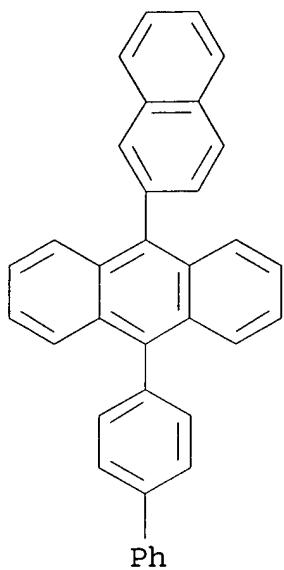
RN 667940-34-3 HCPLUS

CN Anthracene, 9-(2-naphthalenyl)-10-[4-(1-naphthalenyl)phenyl]- (9CI)  
(CA INDEX NAME)



RN 862501-00-6 HCPLUS

CN Anthracene, 9-[1,1'-biphenyl]-4-yl-10-(2-naphthalenyl)- (9CI) (CA  
INDEX NAME)



IC ICM H01L027-15

INCL 257079000

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST array light emitting OLED microcavity pixels

IT Electroluminescent devices  
(array of light-emitting OLED  
microcavity pixels)

IT 122648-99-1 172285-79-9 274905-73-6 331749-28-1 331749-29-2  
331749-30-5 331749-31-6 667940-24-1  
667940-32-1 667940-34-3 862501-00-6  
868839-39-8

RL: TEM (Technical or engineered material use) ; USES (Uses)  
(host; array of **light-emitting** OLED  
microcavity pixels contg.)

IT 175606-05-0 676120-56-2  
RL: TEM (Technical or engineered material use); USES (Uses)  
(light emitting compd.; array of  
light-emitting OLED microcavity  
pixels contq.)

L15 ANSWER 3 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2005:1292785 HCAPLUS  
DOCUMENT NUMBER: 144:29552

TITLE: Electroluminescent devices employing mixtures of electroluminescent and nonelectroluminescent components  
 INVENTOR(S): Brown, Christopher T.; Hatwar, Tukaram K.; Ricks, Michele L.  
 PATENT ASSIGNEE(S): USA  
 SOURCE: U.S. Pat. Appl. Publ., 61 pp., Cont.-in-part of U.S. Ser. No. 658,010, abandoned.  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	-----
-----	-----	-----	-----	-----
US 2005271899	A1	20051208	US 2005-159691	200506 23
US 2004126617	A1	20040701	US 2003-658010	200309 09
PRIORITY APPLN. INFO.:			US 2002-334324	B2
				200212 31
			US 2003-658010	B2
				200309 09

AB Org. **light-emitting** devices comprising a **light-emitting** layer contg. an electroluminescent component having a first bandgap and  $\geq 2$  nonelectroluminescent components having second and further bandgaps, resp. are described in which the second bandgap is equal to or greater than the first bandgap but is  $\leq 2.7$  eV; the further bandgaps are greater than the first and second bandgaps; the nonelectroluminescent component with the second bandgap is present in an amt. of  $\geq 34$  wt. % of the total components in the **light-emitting** layer; the nonelectroluminescent components with further bandgaps are present in a combined amt. of 0.1-65.9 wt. % of the total components in the **light-emitting** layer; and the electroluminescent component is present in amt. of 0.1-5 wt. % of the total components in the **light-emitting**

layer.

IT 865435-26-3 865435-27-4 865435-28-5

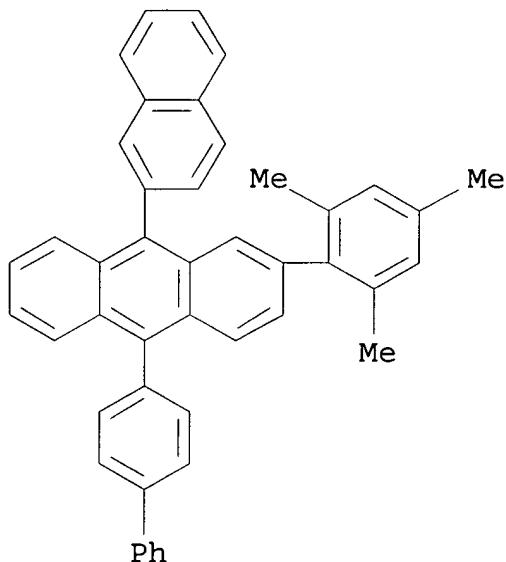
865435-29-6 865435-30-9 865435-39-8

RL: DEV (Device component use); USES (Uses)

(org. electroluminescent devices employing mixts. of  
electroluminescent and nonelectroluminescent components)

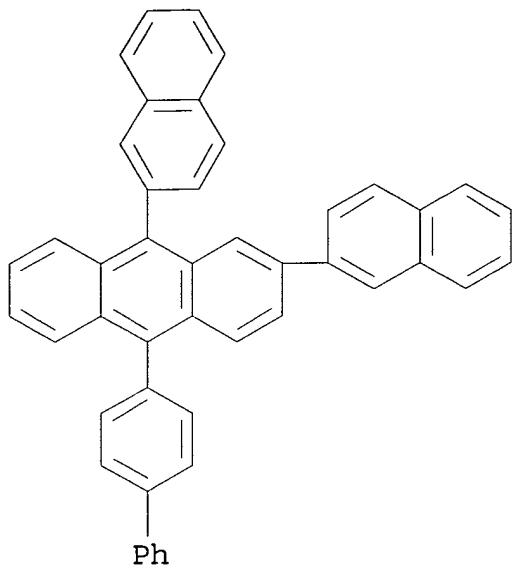
RN 865435-26-3 HCAPLUS

CN Anthracene, 10-[1,1'-biphenyl]-4-yl-9-(2-naphthalenyl)-2-(2,4,6-  
trimethylphenyl)- (9CI) (CA INDEX NAME)



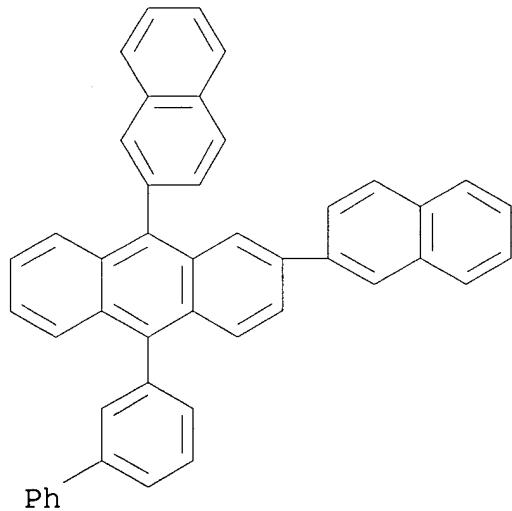
RN 865435-27-4 HCAPLUS

CN Anthracene, 10-[1,1'-biphenyl]-4-yl-2,9-di-2-naphthalenyl- (9CI)  
(CA INDEX NAME)



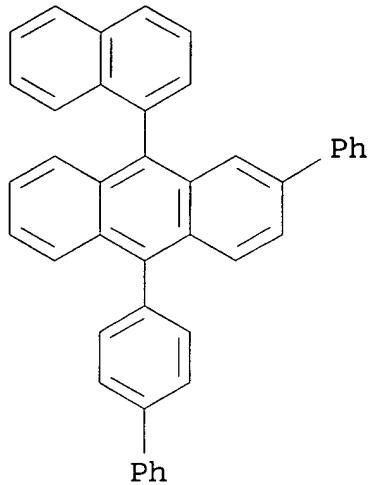
RN 865435-28-5 HCAPLUS

CN Anthracene, 10-[1,1'-biphenyl]-3-yl-2,9-di-2-naphthalenyl- (9CI)  
(CA INDEX NAME)



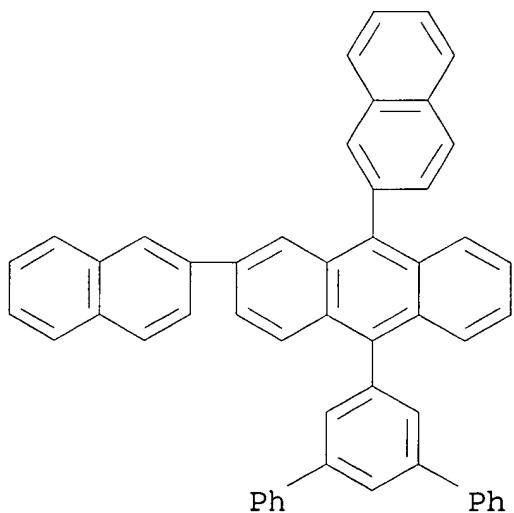
RN 865435-29-6 HCAPLUS

CN Anthracene, 10-[1,1'-biphenyl]-4-yl-9-(1-naphthalenyl)-2-phenyl-  
(9CI) (CA INDEX NAME)



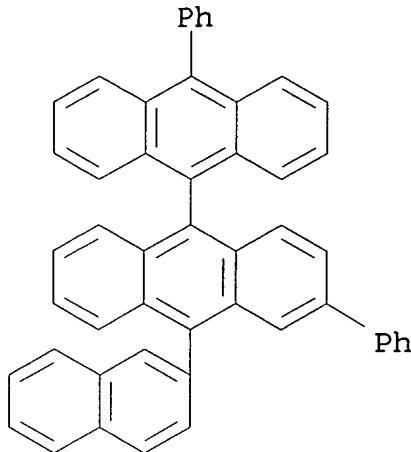
RN 865435-30-9 HCAPLUS

CN Anthracene, 2,9-di-2-naphthalenyl-10-[1,1':3',1'''-terphenyl]-5'-yl- (9CI) (CA INDEX NAME)



RN 865435-39-8 HCAPLUS

CN 9,9'-Bianthracene, 10-(2-naphthalenyl)-3,10'-diphenyl- (9CI) (CA INDEX NAME)



IC ICM H05B033-14

INCL 428690000; 428917000; 313504000; 313506000; 257088000; 257089000;  
427066000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 76

IT Luminescent substances

(electroluminescent; org. electroluminescent devices employing mixts. of electroluminescent and nonelectroluminescent components)

IT	281-23-2D, Adamantane, aryl derivs.	517-51-1	2085-33-8,		
	Tris(8-hydroxyquinolinato)aluminum	51325-95-2	85213-03-2		
	123847-85-8	159788-00-8	175606-05-0	192198-85-9	200052-70-6
	200052-71-7	200052-72-8	213749-94-1	219318-86-2	219319-06-9
	274905-73-6	368884-57-5	374592-94-6	478799-46-1	478799-67-6
	504408-22-4	616235-15-5	714215-47-1	828268-34-4	865435-17-2
	865435-18-3	865435-19-4	865435-20-7	865435-21-8	865435-22-9
	865435-23-0	865435-24-1	865435-25-2	<b>865435-26-3</b>	

**865435-27-4 865435-28-5 865435-29-6****865435-30-9** 865435-31-0 865435-32-1 865435-33-2

865435-34-3 865435-35-4 865435-36-5 865435-38-7

**865435-39-8** 868839-39-8 870558-11-5 870558-13-7

870558-18-2 870558-21-7

RL: DEV (Device component use); USES (Uses)

(org. electroluminescent devices employing mixts. of electroluminescent and nonelectroluminescent components)

L15 ANSWER 4 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

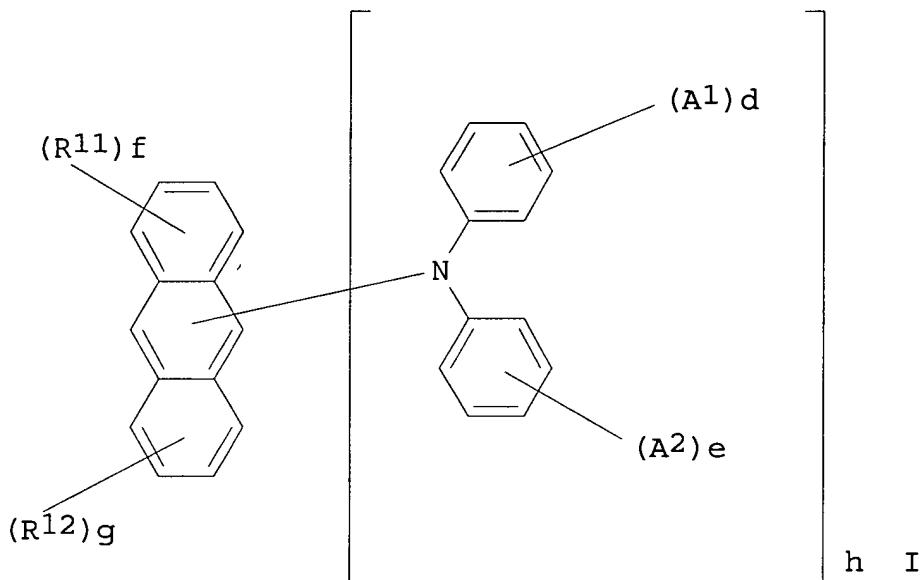
ACCESSION NUMBER: 2005:1292135 HCAPLUS

DOCUMENT NUMBER: 143:485667

TITLE: White organic electroluminescent device  
 INVENTOR(S): Tokailin, Hiroshi; Kuma, Hitoshi; Kubota,  
                   Mineyuki; Funahashi, Masakazu  
 PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan  
 SOURCE: PCT Int. Appl., 69 pp.  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2005117500	A1	20051208	WO 2005-JP9244	200505 20
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
PRIORITY APPLN. INFO.:			JP 2004-158285	A 200405 27

GI



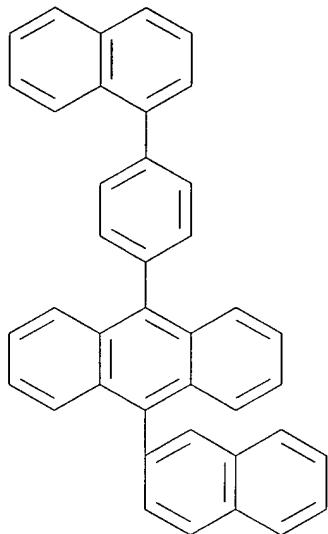
AB Disclosed is a white org. **EL** device wherein **light-emitting** layers are interposed between an anode and a cathode, the **light-emitting** layers resp. **emit blue light**, green light and red light, and the **light-emitting** layer contains a green dopant which is an arom. amine compd. represented by the following formula I, where A1, A2, and R12 resp. represent a hydrogen atom, an alkyl group, an aryl group, a cycloalkyl group, an alkoxy group, an aryloxy group, an arylamino group, an alkylamino group or a halogen atom; d and e resp. represent a no. of 1-5; h represents a no. of 1-9; R11 represents a secondary or tertiary alkyl group or cycloalkyl group; f represents a no. of 1-9; g represents a no. of 0-8; and f+g+h =2-10.

IT 667940-34-3

RL: DEV (Device component use); USES (Uses)  
(white org. electroluminescent device)

RN 667940-34-3 HCAPLUS

CN Anthracene, 9-(2-naphthalenyl)-10-[4-(1-naphthalenyl)phenyl]- (9CI)  
(CA INDEX NAME)



IC ICM H05B033-14  
ICS C09K011-06

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

IT 2085-33-8, Alq3 164724-35-0 209980-47-2 **667940-34-3**  
RL: DEV (Device component use); USES (Uses)  
(white org. electroluminescent device)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 5 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:1200232 HCAPLUS

DOCUMENT NUMBER: 143:449546

TITLE: Tuned microcavity color OLED display

INVENTOR(S): Hatwar, Tukaram K.; Spindler, Jeffrey P.; Ricks, Michele L.; Winters, Dustin L.; Shore, Joel D.

PATENT ASSIGNEE(S): Eastman Kodak Company, USA

SOURCE: U.S. Pat. Appl. Publ., 33 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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MEI HUANG EIC1700 REM4B28 571-272-3952

01/24/2006

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US 2005249972 A1 20051110 US 2004-838665 200405  
04

WO 2005116969 A2 20051208 WO 2005-US13959 200504  
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KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,  
MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC,  
SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG,  
US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,  
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DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC,  
NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA,  
GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2004-838665 A

200405  
04

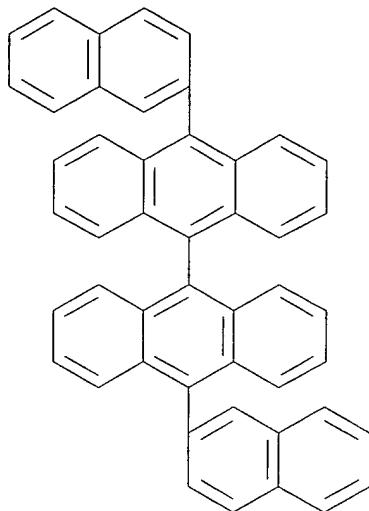
AB A color **OLED** display is described having at least 3 different colored microcavity pixels including a light-reflective structure and a semitransparent structure comprising an array of **light-emitting** microcavity pixels each having one or more common org. **light-emitting** layers, the **light-emitting** layer(s) having 1st, 2nd, and 3rd **light-emitting** materials that produce different light spectra. The 1st **light-emitting** material producing **light** has a 1st spectrum portion that is substantially contained within a 1st color of the array, the 2nd **light-emitting** material producing **light** has a 2nd spectrum portion that is substantially contained within a 2nd color that is different from the 1st color, and the 3rd **light-emitting** material producing **light** has a 3rd spectrum portion that is substantially contained within a 3rd color that is different from the 1st and 2nd colors.

IT 331749-31-6 862501-00-6

RL: NUU (Other use, unclassified); USES (Uses)  
(tuned microcavity color **OLED** display)

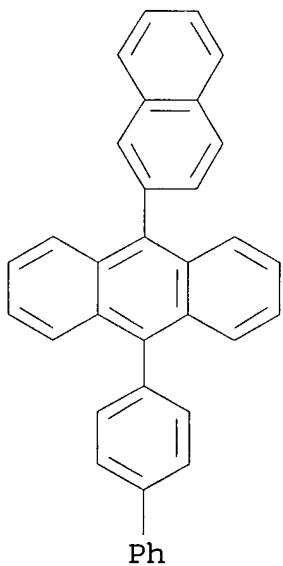
RN 331749-31-6 HCAPLUS

CN 9,9'-Bianthracene, 10,10'-di-2-naphthalenyl- (9CI) (CA INDEX NAME)



RN 862501-00-6 HCPLUS

CN Anthracene, 9-[1,1'-biphenyl]-4-yl-10-(2-naphthalenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-12

INCL 428690000; 428917000; 313504000; 313506000; 313112000; 313113000;

257089000; 257098000  
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 ST tuned microcavity color org light emitting display device  
 IT Electroluminescent devices  
 Optical resonators  
 (tuned microcavity color OLED display)  
 IT 122648-99-1 155306-71-1 172285-79-9 175606-05-0 221455-80-7  
 274905-73-6 331749-28-1 331749-29-2 331749-30-5  
**331749-31-6 676120-56-2 862501-00-6**  
 868839-39-8 868839-40-1 868839-41-2 868839-42-3  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (tuned microcavity color OLED display)

L15 ANSWER 6 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:1077989 HCAPLUS  
 DOCUMENT NUMBER: 143:356360  
 TITLE: Organic element for electroluminescent devices employing an ethynyl stabilizing compound for improved operational stability  
 INVENTOR(S): Cosimbeschu, Lelia; Robello, Douglas R.  
 PATENT ASSIGNEE(S): Eastman Kodak Company, USA  
 SOURCE: U.S. Pat. Appl. Publ., 24 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2005221119	A1	20051006	US 2004-812630	200403 30
WO 2005101914	A1	20051027	WO 2005-US9035	200503 17

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UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,  
 AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,  
 DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC,  
 NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA,  
 GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

US 2004-812630

A

200403  
30

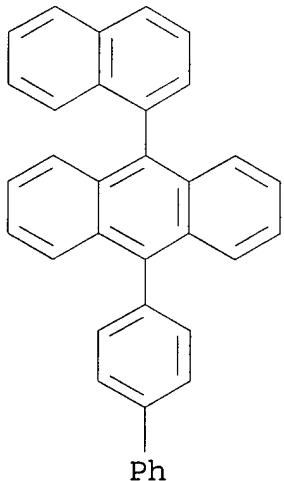
AB Electroluminescent devices are described which comprise a cathode, an anode, and therebetween a layer contg. a host material and an ethynyl compd. of formula A-C.tplbond.C-B in an amt. sufficient to stabilize the device, where A and B represent independently selected fused carbocyclic ring groups.

IT 741255-70-9 862501-00-6

RL: DEV (Device component use); USES (Uses)  
 (host; org. element for electroluminescent devices employing ethynyl stabilizing compd. for improved operational stability)

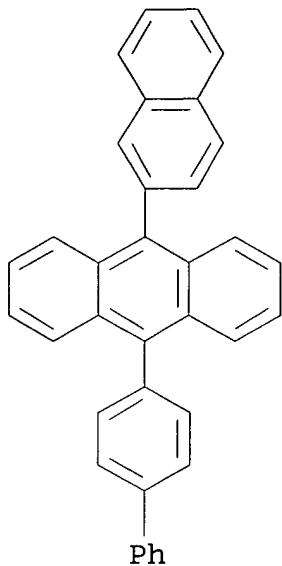
RN 741255-70-9 HCPLUS

CN Anthracene, 9-[1,1'-biphenyl]-4-yl-10-(1-naphthalenyl)- (9CI) (CA INDEX NAME)



RN 862501-00-6 HCPLUS

CN Anthracene, 9-[1,1'-biphenyl]-4-yl-10-(2-naphthalenyl)- (9CI) (CA INDEX NAME)



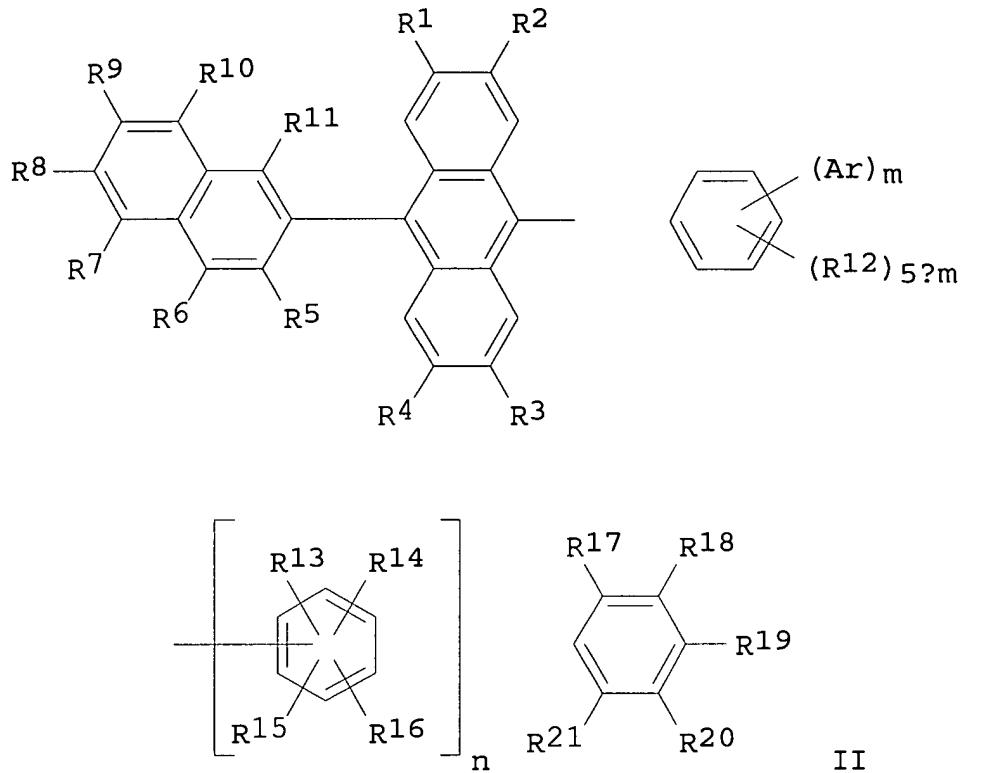
IC ICM H05B033-14  
 INCL 428690000; 428917000; 313504000; 313506000; 313112000; 257098000  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 Section cross-reference(s): 25, 74, 76  
 IT Luminescent screens  
     (electroluminescent; org. element for  
     electroluminescent devices comprising ethynyl stabilizing compd.  
     for improved operational stability)  
 IT 2085-33-8, Tris(8-quinolinolato)aluminum(III) 122648-99-1  
**741255-70-9 862501-00-6**  
     RL: DEV (Device component use); USES (Uses)  
     (host; org. element for electroluminescent devices employing  
     ethynyl stabilizing compd. for improved operational stability)  
 IT 155306-71-1 221455-80-7 574749-25-0  
     RL: DEV (Device component use); MOA (Modifier or additive use); PRP  
     (Properties); USES (Uses)  
     (light-emitting dopant; org. element for  
     electroluminescent devices employing ethynyl stabilizing compd.  
     for improved operational stability)

L15 ANSWER 7 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2005:1049975 HCAPLUS  
 DOCUMENT NUMBER: 143:336006  
 TITLE: Organic electroluminescent device  
 INVENTOR(S): Wang, Guofang; Uchida, Manabu; Koike, Toshihiro;

PATENT ASSIGNEE(S): Kawashima, Masatoshi  
 SOURCE: Chisso Corporation, Japan  
 PCT Int. Appl., 58 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2005091686	A1	20050929	WO 2005-JP4495	200503 15
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
PRIORITY APPLN. INFO.:			JP 2004-80900	A 200403 19

GI

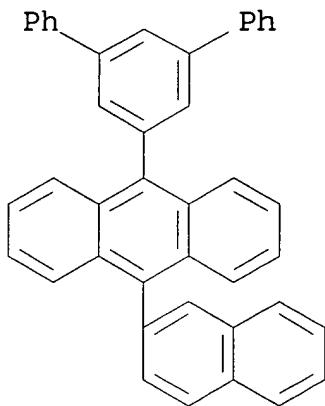


AB An org. electroluminescent device whose **light-emitting** layer contains an anthracene deriv. represented by the general formula I as the host and at least one member selected from among perylene derivs., borane derivs., coumarin derivs., pyran derivs., iridium complexes, and platinum complexes as the dopant and which exhibits high efficiency, long service life, low driving voltage, and high durability both in storage and in driving: wherein R1 to R4 and R12 are each independently hydrogen or C1-12 alkyl; R5 to R11 are each independently hydrogen, C1-12 alkyl, C3-12 cycloalkyl, or C6-12 aryl; Ar is nonfused aryl represented by the general formula II; and m is an integer of 1 to 3: wherein n is an integer of 0 to 5; R13 to R21 are each independently hydrogen, C1-12 alkyl, or C6-12 aryl.

IT 667940-32-1P 865265-36-7P 865265-38-9P  
 RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (anthracene deriv. contg. org. electroluminescent device)

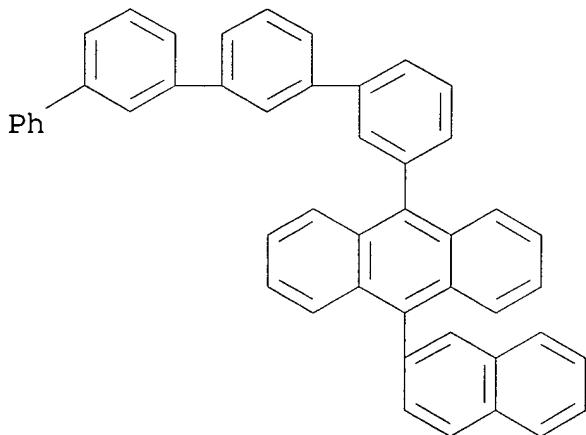
RN 667940-32-1 HCAPLUS

CN Anthracene, 9-(2-naphthalenyl)-10-[1,1':3',1''-terphenyl]-5'-yl-  
(9CI) (CA INDEX NAME)



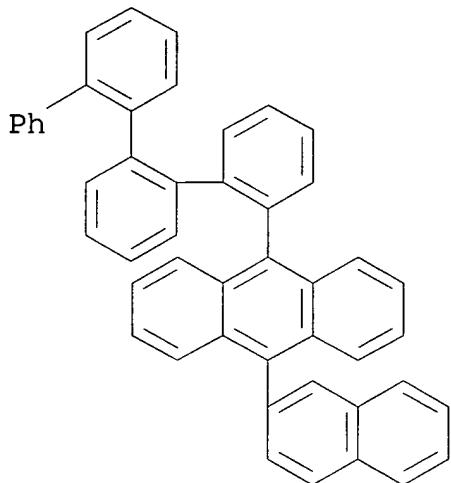
RN 865265-36-7 HCPLUS

CN Anthracene, 9-(2-naphthalenyl)-10-[1,1':3',1''-3'',1'''-quaterphenyl]-3-yl- (9CI) (CA INDEX NAME)



RN 865265-38-9 HCPLUS

CN Anthracene, 9-(2-naphthalenyl)-10-[1,1':2',1''-2'',1'''-quaterphenyl]-2-yl- (9CI) (CA INDEX NAME)



IC ICM H05B033-14  
ICS C09K011-06

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 22

IT **667940-32-1P 865265-36-7P 865265-38-9P**

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(anthracene deriv. contg. org. electroluminescent device)

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 8 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:1049661 HCAPLUS

DOCUMENT NUMBER: 143:335983

TITLE: Electroluminescent device with anthracene derivative host

INVENTOR(S): Conley, Scott R.; Vreeland, William B.; Cosimescu, Lelia

PATENT ASSIGNEE(S): Eastman Kodak Company, USA

SOURCE: U.S. Pat. Appl. Publ., 38 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005211958	A1	20050929	US 2004-809064	200403 25
WO 2005100506	A1	20051027	WO 2005-US8253	200503 11
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PRIORITY APPLN. INFO.:

US 2004-809064

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200403  
25

AB Electroluminescent devices are described which comprise a **light-emitting** layer including an anthracene material bearing at least one aryl ring in the 2-position and having a hydrogen or an alkyl group in the 6-position and having up to 12 arom. carbocyclic rings including at least one naphthalene group in the 9-position of the anthracene group and an aryl group in the 10-position, the anthracene material including among the rings only carbocyclic rings.

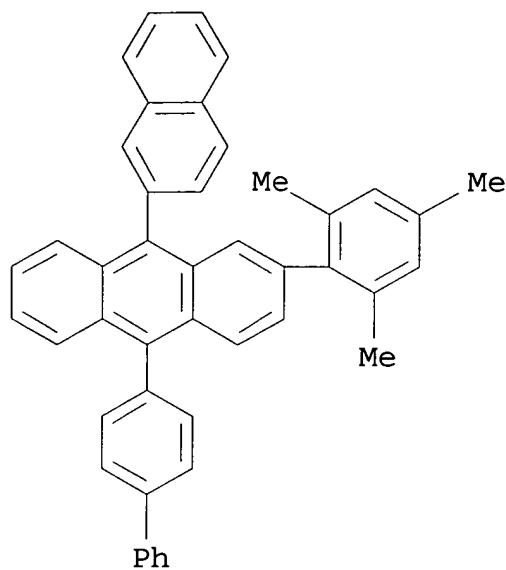
IT 865435-26-3 865435-27-4 865435-28-5

865435-29-6 865435-30-9 865435-39-8

RL: DEV (Device component use); USES (Uses)  
(host; electroluminescent device with anthracene deriv. host)

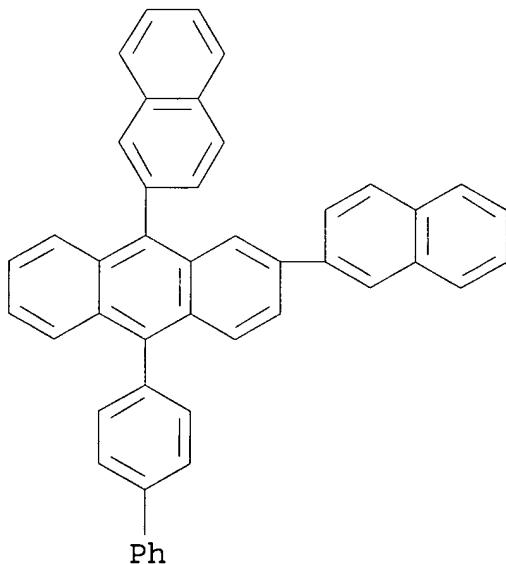
RN 865435-26-3 HCAPLUS

CN Anthracene, 10-[1,1'-biphenyl]-4-yl-9-(2-naphthalenyl)-2-(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



RN 865435-27-4 HCPLUS

CN Anthracene, 10-[1,1'-biphenyl]-4-yl-2,9-di-2-naphthalenyl- (9CI)  
(CA INDEX NAME)

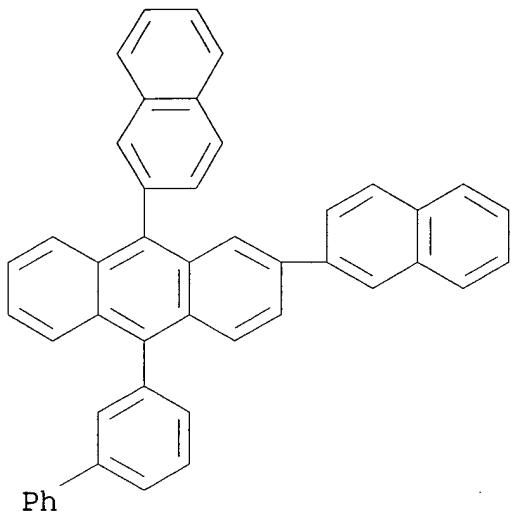


RN 865435-28-5 HCPLUS

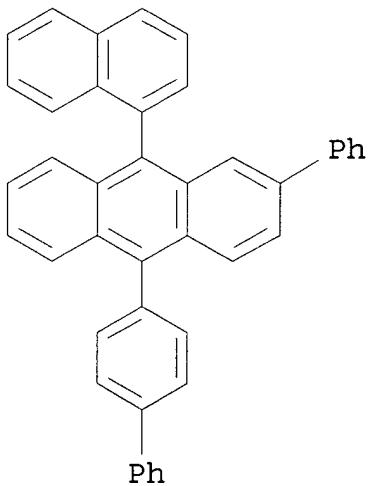
MEI HUANG EIC1700 REM4B28 571-272-3952

01/24/2006

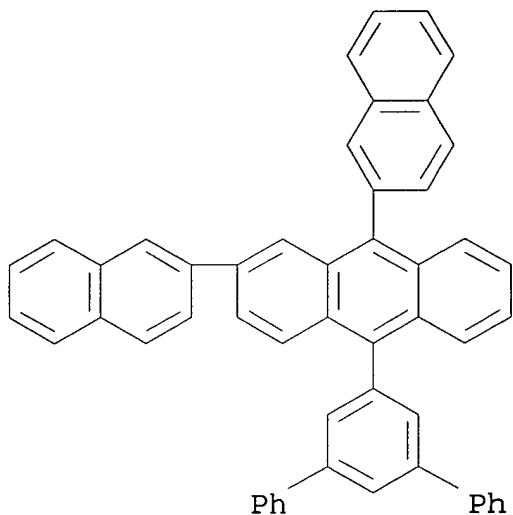
CN Anthracene, 10-[1,1'-biphenyl]-3-yl-2,9-di-2-naphthalenyl- (9CI)  
(CA INDEX NAME)



RN 865435-29-6 HCPLUS  
CN Anthracene, 10-[1,1'-biphenyl]-4-yl-9-(1-naphthalenyl)-2-phenyl-  
(9CI) (CA INDEX NAME)

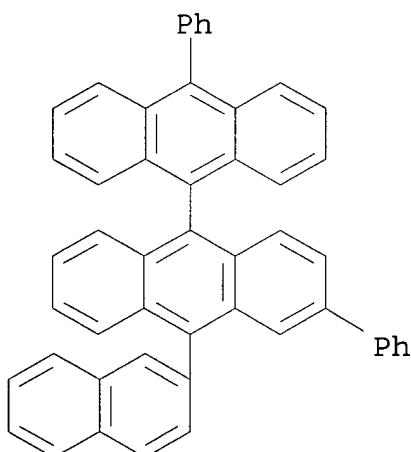


RN 865435-30-9 HCPLUS  
CN Anthracene, 2,9-di-2-naphthalenyl-10-[1,1':3',1'''-terphenyl]-5'-yl-  
(9CI) (CA INDEX NAME)



RN 865435-39-8 HCAPLUS

CN 9,9'-Bianthracene, 10-(2-naphthalenyl)-3,10'-diphenyl- (9CI) (CA INDEX NAME)



IC ICM G02F001-00

INCL 252583000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 25, 74, 76

ST electroluminescent device anthracene deriv host OLED

IT 865435-21-8 865435-25-2 865435-26-3 **865435-27-4**  
**865435-28-5** 865435-29-6 865435-30-9  
865435-31-0 865435-32-1 865435-33-2 865435-34-3 865435-35-4  
865435-36-5 865435-37-6 865435-38-7 **865435-39-8**  
RL: DEV (Device component use); USES (Uses)  
(host; electroluminescent device with anthracene deriv. host)  
IT 198-55-0, Perylene 517-51-1, Rubrene 517-51-1D, Rubrene, derivs.  
55035-42-2D, derivs. 80663-92-9 144810-08-2D, derivs.  
RL: DEV (Device component use); MOA (Modifier or additive use); USES  
(Uses)  
(**light-emitting** dopant; electroluminescent  
device with anthracene deriv. host and)

L15 ANSWER 9 OF 26 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:1026523 HCPLUS

DOCUMENT NUMBER: 143:335928

TITLE: White organic **light-emitting**  
devices with improved performance with  
hole-transporting layers containing  
**light-emitting** naphthacene  
derivatives

INVENTOR(S): Begley, William J.; Hatwar, Tukaram K.;  
Rajeswaran, Manju; Andrievsky, Natasha

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 49 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2005208327	A1	20050922	US 2004-801997	200403 16
WO 2005093008	A1	20051006	WO 2005-US6823	200503 02

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GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP,  
KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,

SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US,  
UZ, VC, VN, YU, ZA, ZM, ZW  
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,  
AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,  
DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC,  
NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA,  
GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2004-801997

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16

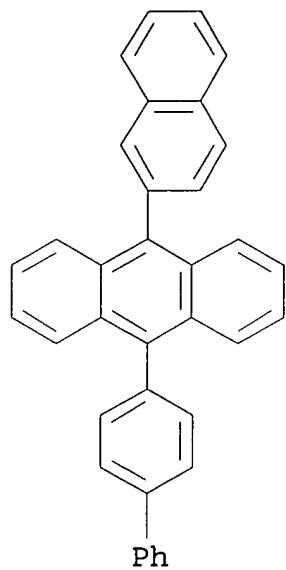
AB Org. **light-emitting** diodes producing white light comprising an anode, a hole-transporting layer disposed over the anode, a blue **light-emitting** layer disposed over the hole-transporting layer, an electron-transporting layer disposed over the blue **light-emitting** layer, and a cathode disposed over the electron-transporting layer are described in which the hole-transporting layer comprises an entire layer or a partial portion of a layer in contact with the blue **light-emitting** layer and contains a selected **light-emitting** naphthacene deriv. (esp. a rubrene deriv.).

IT 862501-00-6 862501-00-6D, derivs.

RL: DEV (Device component use); USES (Uses)  
(white org. **light-emitting** devices with  
hole-transporting layers contg. **light-emitting**  
naphthacene derivs.)

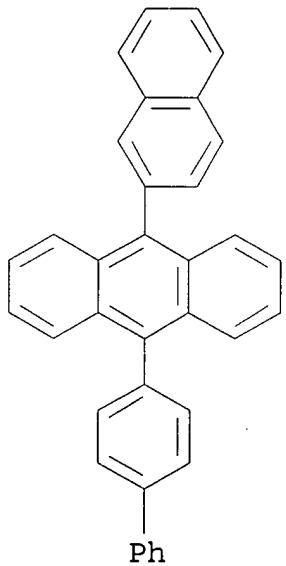
RN 862501-00-6 HCPLUS

CN Anthracene, 9-[1,1'-biphenyl]-4-yl-10-(2-naphthalenyl)- (9CI) (CA  
INDEX NAME)



RN 862501-00-6 HCPLUS

CN Anthracene, 9-[1,1'-biphenyl]-4-yl-10-(2-naphthalenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14

MEI HUANG EIC1700 REM4B28 571-272-3952

01/24/2006

INCL 428690000; 428917000; 428332000; 313504000; 313506000; 313112000;  
257098000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 25, 76

IT Electroluminescent devices  
(org.; white org. **light-emitting** devices with  
hole-transporting layers contg. **light-emitting**  
naphthacene derivs.)

IT Luminescent substances  
(white org. **light-emitting** devices  
with hole-transporting layers contg. **light-**  
**emitting** naphthacene derivs.)

IT 147-14-8, Copper phthalocyanine 1428-67-7D, DPN, derivs.  
7429-90-5, Aluminum, uses 7789-24-4, Lithium fluoride, uses  
11099-20-0 12798-95-7 23786-72-3 37271-44-6 42029-62-9  
51311-17-2, Carbon fluoride 55035-43-3 55035-43-3D, derivs.  
80663-92-9, 2,5,8,11-Tetra-tert-butyl perylene 122648-99-1  
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155306-71-1, C545T 221455-80-7 256425-63-5, C545TB 274905-73-6  
274905-73-6D, derivs. 574749-25-0 676120-51-7 676120-52-8  
676120-53-9 676120-54-0 676120-55-1 676120-56-2 676120-57-3  
676120-58-4 676120-59-5 676120-60-8 **862501-00-6**  
**862501-00-6D**, derivs.

RL: DEV (Device component use); USES (Uses)  
(white org. **light-emitting** devices with  
hole-transporting layers contg. **light-emitting**  
naphthacene derivs.)

IT 118769-17-8 682806-51-5 850755-32-7 850755-33-8 850755-34-9  
850755-36-1 850755-40-7 850755-41-8 850755-42-9 850755-44-1  
850755-45-2 850755-46-3 850765-58-1 850765-59-2 850765-60-5  
850765-61-6 850765-62-7 850765-63-8 850765-64-9 850765-67-2  
850765-68-3 850765-70-7 850765-71-8 850797-15-8 850797-16-9  
850797-17-0 850797-18-1 850797-19-2 850797-20-5 850797-21-6  
850797-22-7 850797-23-8 850797-24-9 850797-25-0 850833-50-0  
850833-51-1 865093-41-0

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)  
(white org. **light-emitting** devices with  
hole-transporting layers contg. **light-emitting**  
naphthacene derivs.)

IT 850797-14-7P  
RL: DEV (Device component use); MOA (Modifier or additive use); SPN  
(Synthetic preparation); PREP (Preparation); USES (Uses)  
(white org. **light-emitting** devices with

hole-transporting layers contg. **light-emitting**  
naphthacene derivs.)

IT 772-38-3 15796-82-4

RL: RCT (Reactant); RACT (Reactant or reagent)  
(white org. **light-emitting** devices with  
hole-transporting layers contg. **light-emitting**  
naphthacene derivs.)

IT 850797-13-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
RACT (Reactant or reagent)  
(white org. **light-emitting** devices with  
hole-transporting layers contg. **light-emitting**  
naphthacene derivs.)

L15 ANSWER 10 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:1005056 HCAPLUS

DOCUMENT NUMBER: 143:295337

TITLE: Organic electroluminescence display device

INVENTOR(S): Yamamichi, Keiko; Fukuoka, Kenichi; Yuasa, Kimihiro; Hosokawa, Chishio; Kuma, Hitoshi

PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan

SOURCE: PCT Int. Appl., 70 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2005086539	A1	20050915	WO 2005-JP2558	200502 18

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,  
CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP,  
KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,  
SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US,  
UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,  
AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,  
DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC,  
NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA,

GN, GQ, GW, ML, MR, NE, SN, TD, TG  
 PRIORITY APPLN. INFO.: JP 2004-62774 A 200403  
 05

JP 2004-151625 A 200405  
 21

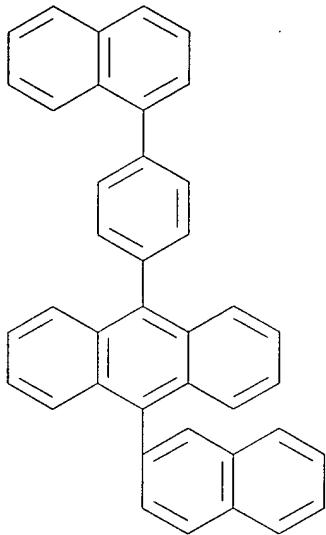
AB An org. **EL** display device has a substrate, and a first org. **EL** element part and a second org. **EL** element part which are arranged in parallel on the same plane of the substrate. The first org. **EL** element part at least includes a light reflecting conductor layer, an org. **light-emitting** medium layer and a transparent electrode layer in this order, and inside or outside of the org. **light-emitting** medium layer or the transparent electrode layer, a light reflecting layer is provided. The second org. **EL** element part at least includes the light reflecting conductor layer, a first inorg. compd. layer, an org. **light-emitting** medium layer and a transparent electrode layer in this order, and inside or outside of the org. **light-emitting** medium layer or the transparent electrode layer, the light reflecting layer is provided. The **emission** spectrum of **light emitted** from the first org. **EL** element part and that from the second org. **EL** element part are different.

IT 667940-34-3

RL: DEV (Device component use); USES (Uses)  
 (org. electroluminescent display device)

RN 667940-34-3 HCAPLUS

CN Anthracene, 9-(2-naphthalenyl)-10-[4-(1-naphthalenyl)phenyl]- (9CI)  
 (CA INDEX NAME)



IC ICM H05B033-24

ICS H05B033-12; H05B033-14; H05B033-26; H05B033-28

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 25, 74

IT 1308-38-9, Chromium oxide, uses 2085-33-8, Alq3 7439-93-2, Lithium, uses 7439-95-4, Magnesium, uses 7440-22-4, Silver, uses 7440-47-3, Chromium, uses 7789-24-4, Lithium fluoride, uses 11105-01-4, Silicon nitride oxide 117944-65-7, Indium zinc oxide 123847-85-8,  $\alpha$ -NPD 164724-35-0 209980-47-2 260550-68-3 312497-12-4 462631-35-2 **667940-34-3**RL: DEV (Device component use); USES (Uses)  
(org. electroluminescent display device)

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 11 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:962579 HCAPLUS

DOCUMENT NUMBER: 143:256816

TITLE: White organic electroluminescence device

INVENTOR(S): Tokairin, Hiroshi; Fukuoka, Kenichi; Kubota, Mineyuki; Funahashi, Masakazu

PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan

SOURCE: PCT Int. Appl., 63 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

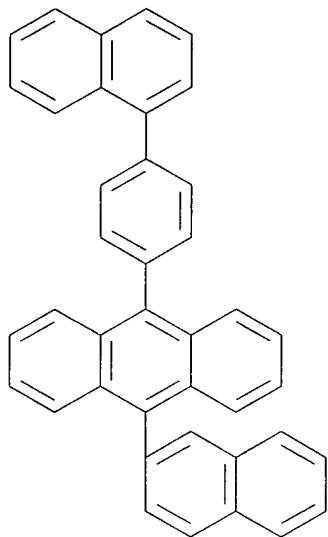
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2005081587	A1	20050901	WO 2005-JP2442	200502 17
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
PRIORITY APPLN. INFO.:			JP 2004-42694	A 200402 19

AB The invention refers to a white org. electroluminescence device comprising a neg. electrode and a pos. electrode and, interposed there between, one or more org. thin film layers including at least a **light emitting** layer, wherein the **light emitting** layer is constituted of a laminate of blue color **light emitting** layer and yellow-to-red color **light emitting** layer and contains an asym. condensed-ring-contg. compd. This white color org. electroluminescence device realizes reduced chromaticity changes and excels in luminous efficiency and thermal stability, ensuring strikingly prolonged service life.

IT 667940-34-3 667940-36-5 863292-29-9  
 RL: DEV (Device component use); USES (Uses)  
 (white color org. electroluminescence device)

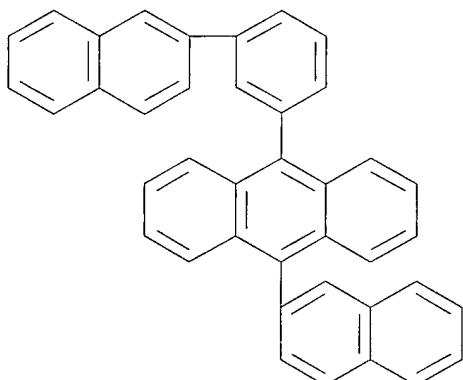
RN 667940-34-3 HCAPLUS

CN Anthracene, 9-(2-naphthalenyl)-10-[4-(1-naphthalenyl)phenyl]- (9CI)  
 (CA INDEX NAME)



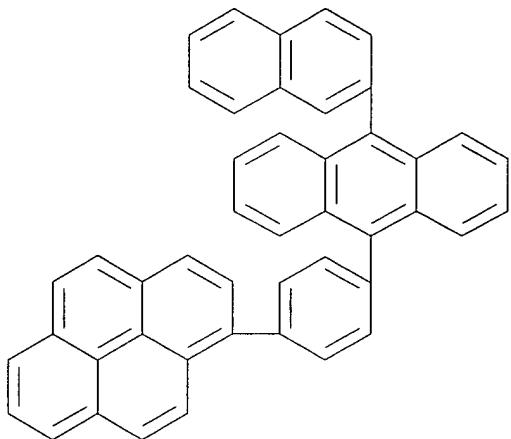
RN 667940-36-5 HCPLUS

CN Anthracene, 9-(2-naphthalenyl)-10-[3-(2-naphthalenyl)phenyl]- (9CI)  
(CA INDEX NAME)



RN 863292-29-9 HCPLUS

CN Pyrene, 1-[4-[10-(2-naphthalenyl)-9-anthracenyl]phenyl]- (9CI) (CA INDEX NAME)



IC ICM H05B033-14  
ICS C09K011-06

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

IT 154853-83-5 331965-31-2 **667940-34-3 667940-36-5**  
764657-26-3 853945-27-4 853945-29-6 853945-34-3 855828-33-0  
863292-27-7 863292-28-8 **863292-29-9**

RL: DEV (Device component use); USES (Uses)  
(white color org. electroluminescence device)

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L15 ANSWER 12 OF 26 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:823196 HCPLUS

DOCUMENT NUMBER: 143:219254

TITLE: Anthracene derivative host having ranges of  
dopants

INVENTOR(S): Ricks, Michele L.; Hatwar, Tukaram K.; Spindler,  
Jeffrey P.; Cosimescu, Lelia

PATENT ASSIGNEE(S): Eastman Kodak Company, USA

SOURCE: U.S. Pat. Appl. Publ., 33 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2005181232

A1

20050818

US 2004-

780436

200402  
17

WO 2005080527

A1

20050901

WO 2005-US3879

200502  
04

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

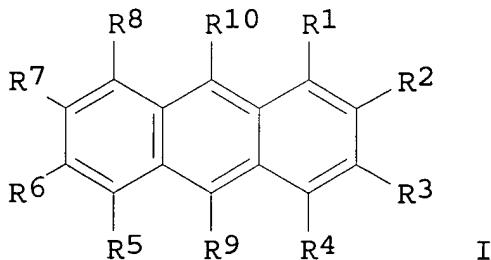
PRIORITY APPLN. INFO.:

US 2004-780436

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200402  
17

GI



AB White light-emitting org. light-emitting devices including spaced apart anodes and cathodes, and having blue light-emitting and yellow, orange, or red light-emitting layers are described in which the blue light-emitting layer includes a host material comprising a monoanthracene deriv. are described by the general formula I (R1-8 = H; R9 is not the same as

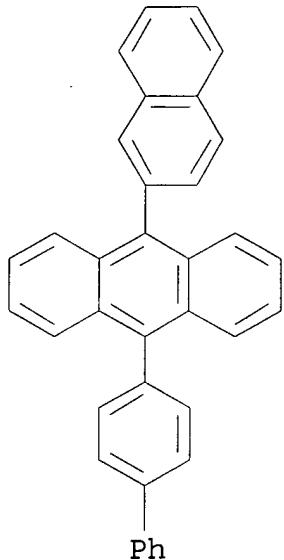
R10; R9 = a naphthyl group having no fused rings with aliph. carbon ring members; and R10 = a biphenyl group having no fused rings with aliph. carbon ring members; and R9 and R10 are free of amines and sulfur compds.). The devices may be provided with color filters. Displays and area lighting systems incorporating the devices are also described.

IT 862501-00-6

RL: DEV (Device component use); USES (Uses)  
 (white light-emitting org. light-emitting devices employing anthracene deriv. hosts)

RN 862501-00-6 HCPLUS

CN Anthracene, 9-[1,1'-biphenyl]-4-yl-10-(2-naphthalenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14

INCL 428690000; 428917000; 313504000; 313506000; 313112000; 257098000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 74, 76

ST org white light emitting device anthracene deriv host

IT Electroluminescent devices

(displays, org.; white light-emitting org. light-emitting devices employing anthracene deriv. hosts)

IT Luminescent screens  
 Luminescent substances  
 (electroluminescent, org.; white light-emitting org. light-emitting devices employing anthracene deriv. hosts)

IT Electroluminescent devices  
 (org.; white light-emitting org. light-emitting devices employing anthracene deriv. hosts)

IT 27130-32-1D, derivs. 175606-05-0 **862501-00-6**  
 862501-01-7  
 RL: DEV (Device component use); USES (Uses)  
 (white light-emitting org. light-emitting devices employing anthracene deriv. hosts)

IT 517-51-1, Rubrene 55035-43-3, 4-(Di-p-tolylamino)-4'-(di-p-tolylamino)styryl] stilbene 80663-92-9 123847-85-8, NPB  
 676120-56-2  
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)  
 (white light-emitting org. light-emitting devices employing anthracene deriv. hosts)

L15 ANSWER 13 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:589128 HCAPLUS

DOCUMENT NUMBER: 143:86447

TITLE: **Light-emitting material for organic electroluminescent devices**

INVENTOR(S): Kubota, Mineyuki; Funahashi, Masakazu; Hosokawa, Chishio

PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan

SOURCE: PCT Int. Appl., 71 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2005061656	A1	20050707	WO 2004-JP18964	200412
				13

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,

GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP,  
KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,  
SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,  
VC, VN, YU, ZA, ZM, ZW  
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,  
AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,  
DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC,  
NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA,  
GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

JP 2003-423317

A

200312  
19

AB Disclosed is a **light-emitting** material for org. electroluminescent (**EL**) devices which is composed of an asym. anthracene deriv. of a specific structure. Also disclosed are a material for org. **EL** devices and an org. **EL** device where an org. thin film layer composed of one or more layers including at least a **light-emitting** layer is interposed between a cathode and an anode. At least one layer of the org. thin film layer contains the material for org. **EL** devices by itself or as a component of a mixt. Consequently, the org. **EL** device has a high luminous efficiency and a long life. Also disclosed are a **light-emitting** material for org. **EL** devices and material for org. **EL** devices which enable to realize such an org. **EL** device.

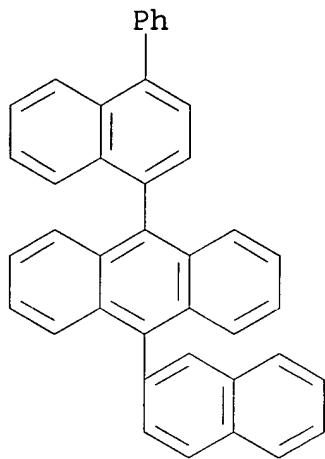
IT 855828-31-8P 855828-32-9P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(light-emitting material for org. electroluminescent devices)

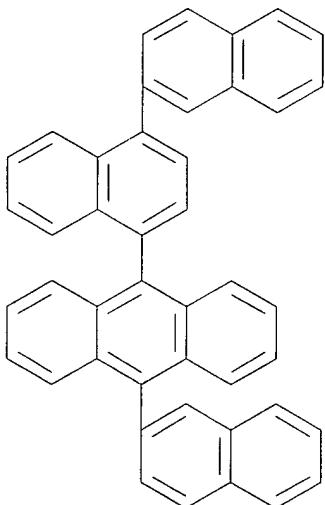
RN 855828-31-8 HCPLUS

CN Anthracene, 9-(2-naphthalenyl)-10-(4-phenyl-1-naphthalenyl)- (9CI)  
(CA INDEX NAME)



RN 855828-32-9 HCPLUS

CN Anthracene, 9-[1,2'-binaphthalen]-4-yl-10-(2-naphthalenyl)- (9CI)  
(CA INDEX NAME)



IC ICM C09K011-06

ICS H05B033-14; H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST light emitting material org electroluminescent device

IT Electroluminescent devices  
 Luminescent substances  
 (light-emitting material for org.  
 electroluminescent devices)  
 IT 2085-33-8, Alq3 136925-63-8 154853-83-5 157357-98-7  
 669016-16-4  
 RL: DEV (Device component use); USES (Uses)  
 (light-emitting material for org.  
 electroluminescent devices)  
 IT 855828-30-7P **855828-31-8P 855828-32-9P**  
 855828-33-0P 855828-34-1P 855828-35-2P 855828-36-3P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP  
 (Preparation)  
 (light-emitting material for org.  
 electroluminescent devices)

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L15 ANSWER 14 OF 26 HCPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2005:370907 HCPLUS  
 DOCUMENT NUMBER: 142:419755  
 TITLE: Electroluminescent device with anthracene  
 derivative host.  
 INVENTOR(S): Cosimescu, Lelia; Vreeland, William B.; Conley,  
 Scott R.; Mount, Jeri L.  
 PATENT ASSIGNEE(S): Eastman Kodak Company, USA  
 SOURCE: U.S. Pat. Appl. Publ., 34 pp., Cont.-in-part of  
 U.S. Ser. No. 693,121, abandoned.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2005089717	A1	20050428	US 2004-950614	200409 27
WO 2005042668	A1	20050512	WO 2004-US34323	200410 19

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,

CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
 GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP,  
 KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
 MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,  
 SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,  
 VC, VN, YU, ZA, ZM, ZW  
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,  
 AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,  
 DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL,  
 PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
 GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2003-693121 B2  
 200310  
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US 2004-950614 A  
 200409  
 27

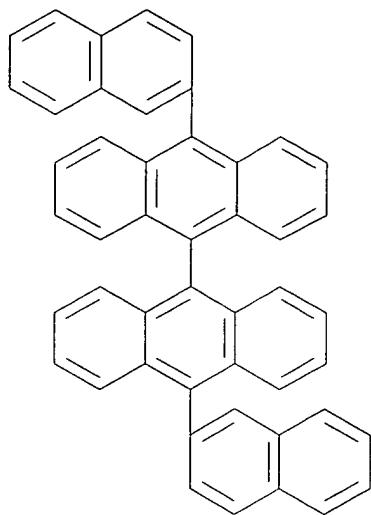
AB An **OLED** device comprises an anode and a cathode and located there-between a **light emitting** layer contg. a **light emitting** dopant and a host comprising a monoanthracene deriv. substituted with a naphthyl group and a biphenyl group at the 9 and 10 positions resp.

IT 331749-31-6 850589-59-2 850589-60-5  
 850589-61-6 850589-64-9 850589-65-0  
 850589-66-1 850589-67-2 850589-69-4  
 850589-70-7 850589-71-8 850589-73-0  
 850589-74-1 850589-75-2

RL: DEV (Device component use); USES (Uses)  
 (electroluminescent device with anthracene deriv. host)

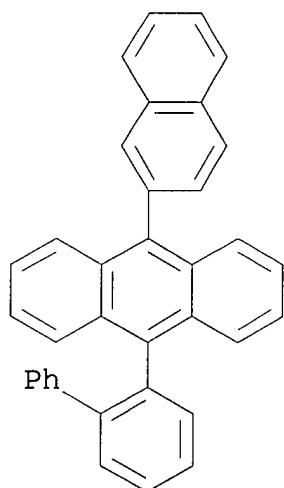
RN 331749-31-6 HCPLUS

CN 9,9'-Bianthracene, 10,10'-di-2-naphthalenyl- (9CI) (CA INDEX NAME)



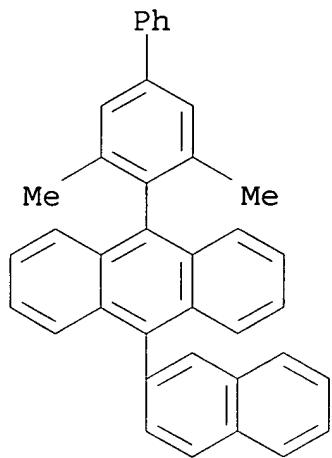
RN 850589-59-2 HCPLUS

CN Anthracene, 9-[1,1'-biphenyl]-2-yl-10-(2-naphthalenyl)- (9CI) (CA INDEX NAME)



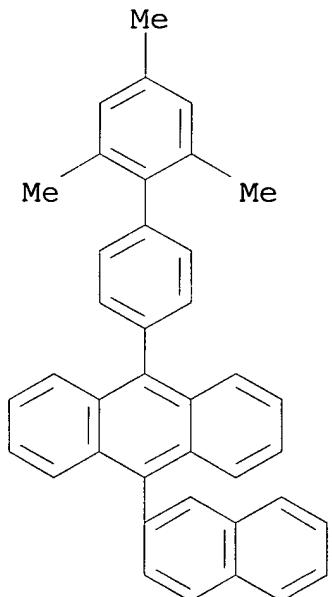
RN 850589-60-5 HCPLUS

CN Anthracene, 9-(3,5-dimethyl[1,1'-biphenyl]-4-yl)-10-(2-naphthalenyl)- (9CI) (CA INDEX NAME)



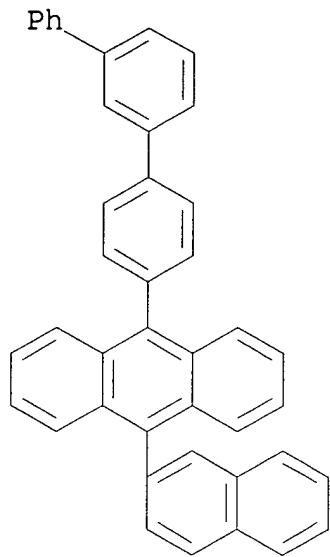
RN 850589-61-6 HCPLUS

CN Anthracene, 9-(2-naphthyl)-10-(2',4',6'-trimethyl[1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)



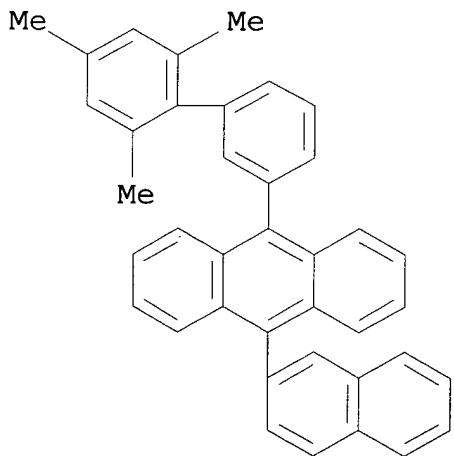
RN 850589-64-9 HCPLUS

CN Anthracene, 9-(2-naphthyl)-10-[1,1':3',1''-terphenyl]-4-yl- (9CI) (CA INDEX NAME)



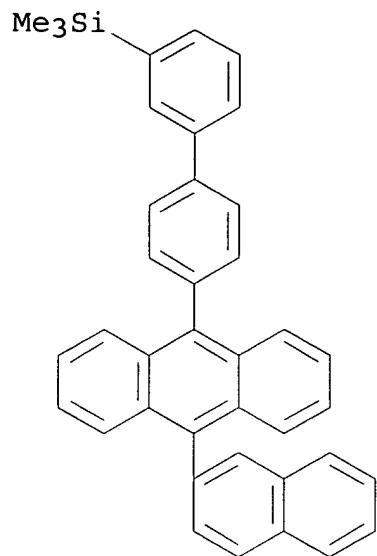
RN 850589-65-0 HCAPLUS

CN Anthracene, 9-(2-naphthalenyl)-10-(2',4',6'-trimethyl[1,1'-biphenyl]-3-yl)- (9CI) (CA INDEX NAME)



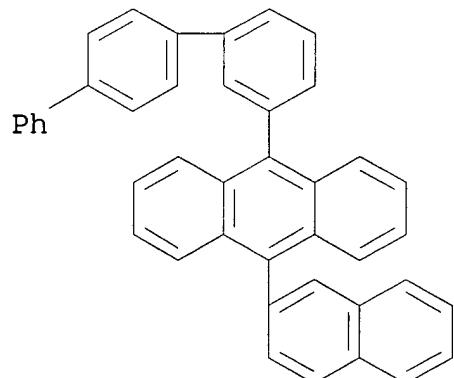
RN 850589-66-1 HCAPLUS

CN Silane, trimethyl[4'-(10-(2-naphthalenyl)-9-anthracyl)-1,1'-biphenyl]-3-yl]- (9CI) (CA INDEX NAME)



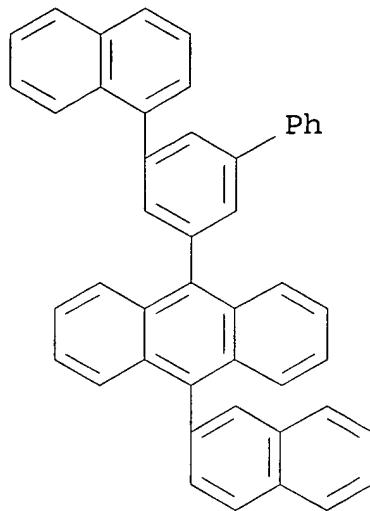
RN 850589-67-2 HCPLUS

CN Anthracene, 9- (2-naphthalenyl)-10- [1,1':4',1'''-terphenyl]-3-yl-  
(9CI) (CA INDEX NAME)



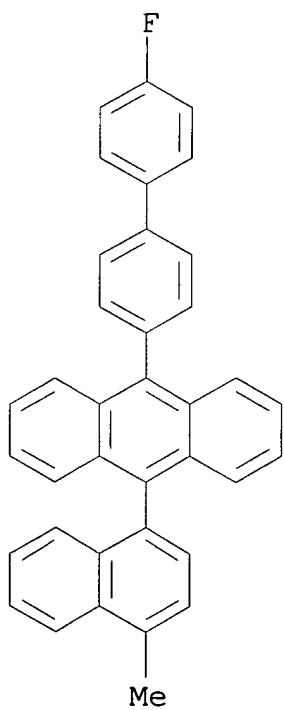
RN 850589-69-4 HCPLUS

CN Anthracene, 9- (2-naphthalenyl)-10- [5- (1-naphthalenyl) [1,1'-biphenyl]-  
3-yl]- (9CI) (CA INDEX NAME)



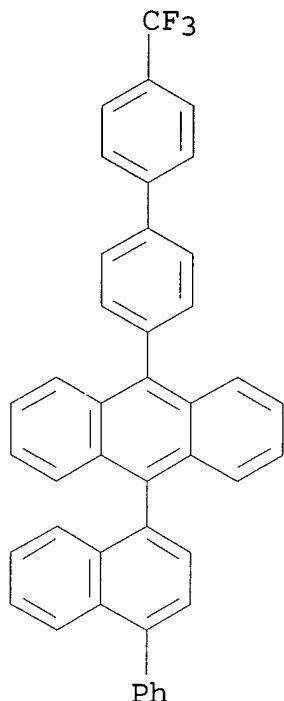
RN 850589-70-7 HCPLUS

CN Anthracene, 9-(4'-fluoro[1,1'-biphenyl]-4-yl)-10-(4-methyl-1-naphthalenyl)- (9CI) (CA INDEX NAME)



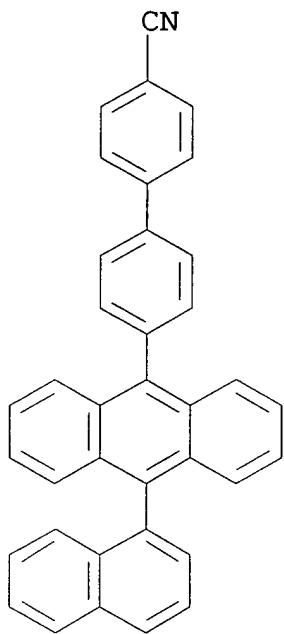
RN 850589-71-8 HCPLUS

CN Anthracene, 9- (4-phenyl-1-naphthalenyl)-10- [4'-(trifluoromethyl) [1,1'-biphenyl]-4-yl]- (9CI) (CA INDEX NAME)



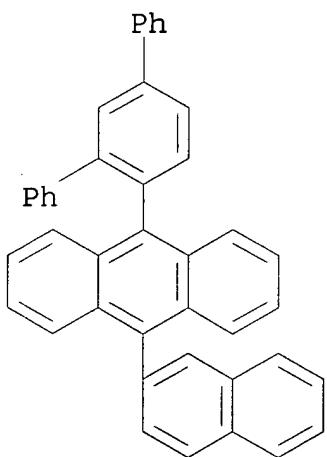
RN 850589-73-0 HCPLUS

CN [1,1'-Biphenyl]-4-carbonitrile, 4'-[10-(1-naphthalenyl)-9-anthracenyl]- (9CI) (CA INDEX NAME)



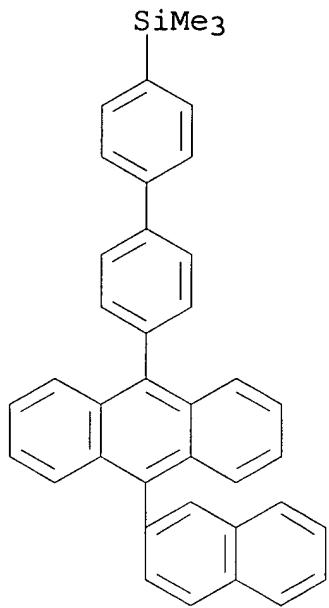
RN 850589-74-1 HCPLUS

CN Anthracene, 9-(2-naphthalenyl)-10-[1,1':3',1''-terphenyl]-4'-yl-  
(9CI) (CA INDEX NAME)



RN 850589-75-2 HCPLUS

CN Silane, trimethyl[4'-(10-(2-naphthalenyl)-9-anthracenyl)[1,1'-biphenyl]-4-yl]- (9CI) (CA INDEX NAME)

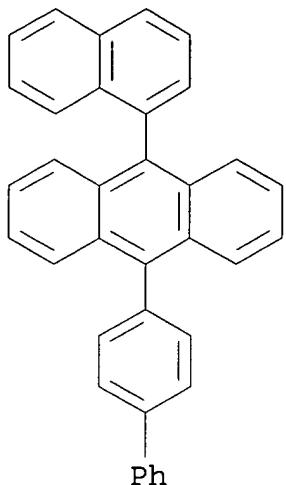


IT 741255-70-9P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(electroluminescent device with anthracene deriv. host)

RN 741255-70-9 HCPLUS

CN Anthracene, 9-[1,1'-biphenyl]-4-yl-10-(1-naphthalenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14  
 INCL 428690000; 428917000; 313504000; 313506000  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 IT 43069-36-9 55035-43-3 80663-92-9 155306-71-1 200052-70-6  
 221455-80-7 274905-73-6 331749-31-6 363609-60-3  
**850589-59-2 850589-60-5 850589-61-6**  
 850589-62-7 850589-63-8 850589-64-9 850589-65-0  
**850589-66-1 850589-67-2 850589-68-3**  
**850589-69-4 850589-70-7 850589-71-8**  
 850589-72-9 850589-73-0 850589-74-1  
**850589-75-2**  
 RL: DEV (Device component use); USES (Uses)  
 (electroluminescent device with anthracene deriv. host)  
 IT **741255-70-9P**  
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP  
 (Preparation); USES (Uses)  
 (electroluminescent device with anthracene deriv. host)

L15 ANSWER 15 OF 26 HCPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2005:58493 HCPLUS  
 DOCUMENT NUMBER: 142:143784  
 TITLE: White organic electroluminescence device  
 INVENTOR(S): Matsuura, Masahide; Fukuoka, Kenichi; Yamamoto,  
 Hiroshi; Hosokawa, Chishio  
 PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan  
 SOURCE: PCT Int. Appl., 75 pp.  
 CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2005006816	A1	20050120	WO 2004-JP9290	200406 24
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

PRIORITY APPLN. INFO.:

JP 2003-195472

A

200307  
11

OTHER SOURCE(S): MARPAT 142:143784

AB A white org. electroluminescence device comprising, between a pair of electrodes,  $\geq 2$  **light-emitting** layer and an electron transport layer made of a N-contg. heterocyclic deriv. or a Si-contg. heterocyclic deriv. The energy gap of the host material contained in the **light-emitting** layers is limited in a specific range, and the energy gap of the N-contg. heterocyclic deriv. or a Si-contg. heterocyclic deriv. contained in the electron transport layer is limited in a specific range. The ionization potential of the N-contg. heterocyclic deriv. or Si-contg. heterocyclic deriv. of the electron transport layer and that of the host material of the **light-emitting** layer in contact with the electron transport layer satisfy a specific relation. The white org. electroluminescence operates on low voltage at high luminous efficiency, have a long life, and does not change in chromaticity.

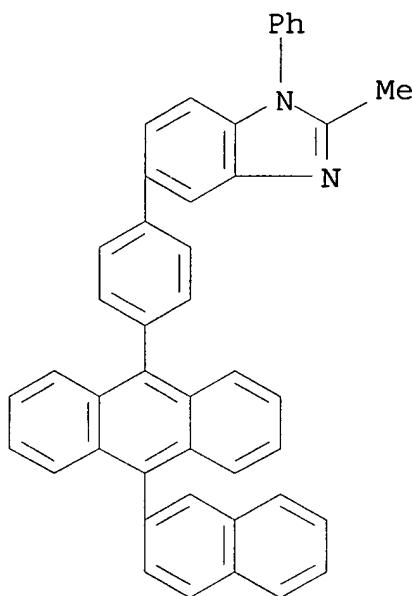
IT 824956-63-0

RL: DEV (Device component use); USES (Uses)

(white org. electroluminescent device)

RN 824956-63-0 HCPLUS

CN 1H-Benzimidazole, 2-methyl-5-[4-[10-(2-naphthalenyl)-9-anthracenyl]phenyl]-1-phenyl- (9CI) (CA INDEX NAME)



IC ICM H05B033-12

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 74

IT 154853-83-5 164724-35-0 186412-15-7 209980-53-0 364765-18-4  
641143-96-6 **824956-63-0**RL: DEV (Device component use); USES (Uses)  
(white org. electroluminescent device)REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L15 ANSWER 16 OF 26 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:923 HCPLUS

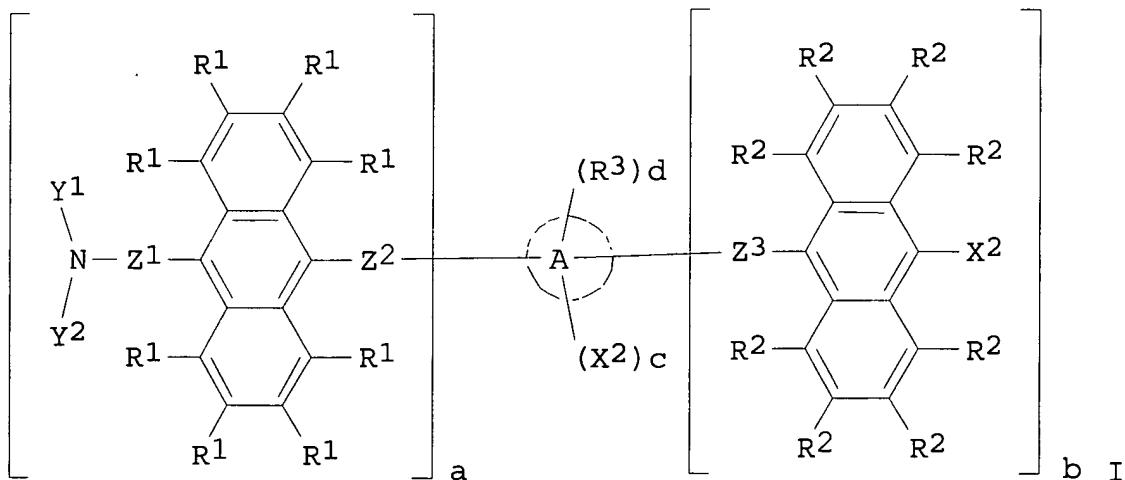
DOCUMENT NUMBER: 142:82030

TITLE: Organic electroluminescent device with  
anthracene derivativeINVENTOR(S): Saitoh, Akihito; Suzuki, Koichi; Senoo, Akihiro;  
Ueno, Kazunori; Okinaka, Keiji

PATENT ASSIGNEE(S) : Canon Kabushiki Kaisha, Japan  
 SOURCE: U.S. Pat. Appl. Publ., 34 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004263067	A1	20041230	US 2004-875241	200406 25
JP 2005015418	A2	20050120	JP 2003-184261	200306 27
PRIORITY APPLN. INFO.:			JP 2003-184261	A 200306 27

OTHER SOURCE(S) : MARPAT 142:82030  
 GI



AB The invention refers to an org. electroluminescent device with high-efficiency optical output, high luminance and long life, comprising at least one layer having a light-

emitting region contg. a compd. I [A = a mol. unit contg. an arom. ring, condensed polycyclic ring, or heterocycle; Y<sub>1,2</sub> = (un)substituted alkyl, aralkyl, aryl, heterocycle or divalent substituent having a linking group where Y<sub>1</sub> and Y<sub>2</sub> may be linked together to form a ring; Z<sub>1</sub> = direct bond, (un)substituted arylene, divalent heterocycle, or divalent substituent having a linking group; Z<sub>2,3</sub> = direct bond, (un)substituted alkylene, alkenylene, alkynylene, aralkynylene arylene, divalent heterocycle or divalent substituent having a linking group; X<sub>1</sub> = H, D, halo, (un)substituted alkyl, alkenyl, alkynyl, aralkyl, alkoxy, sulfide, aryl heterocycle, substituted silyl, boranyl or divalent substituent having a linking group; X<sub>2</sub> = (un)substituted aryl, heterocycle or divalent substituent having a linking group; R<sub>1,2</sub> = H, D, halo, (un)substituted alkyl, aryl, alkoxy or amino; R<sub>3</sub> = H, D, halo, (un)substituted alkyl or alkoxy; a = 0 - 6; b + c + d = 6 - a, where a + b ≥ 2, and when a = 0 at least one of X<sub>1</sub> on the anthryl group contains a substituent other than H, D or halo] and a 2nd compd. having a band gap larger than a band gap of the 1st compd.

IT

**813467-80-0P**

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(org. electroluminescent device with anthracene deriv.)

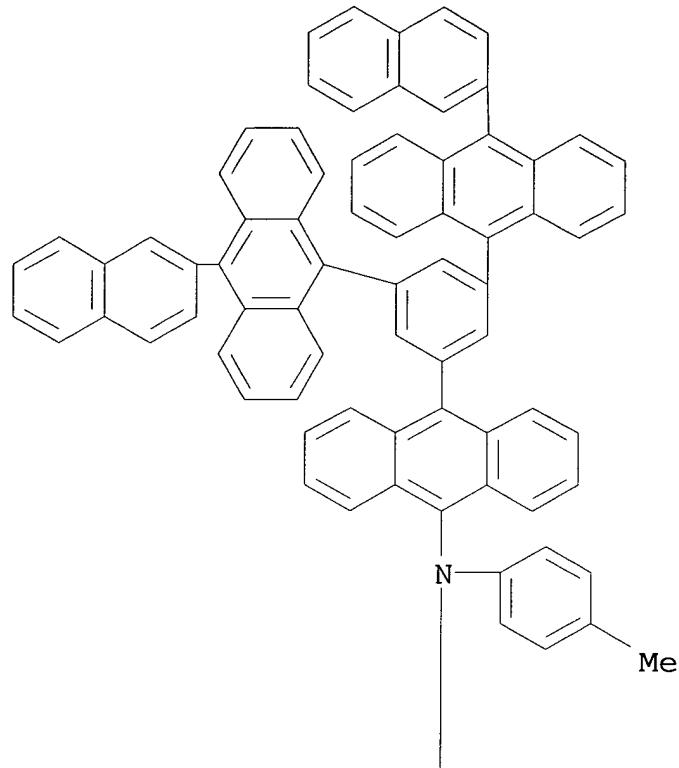
RN

813467-80-0 HCAPLUS

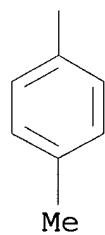
CN

9-Anthracenamine, 10-[3,5-bis[10-(2-naphthalenyl)-9-anthracyl]phenyl]-N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IC ICM H01J001-62  
ICS H01J063-04; C07D409-14; C07D401-14  
INCL 313504000; 546285000; 546255000; 548528000; 549059000; 564426000  
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

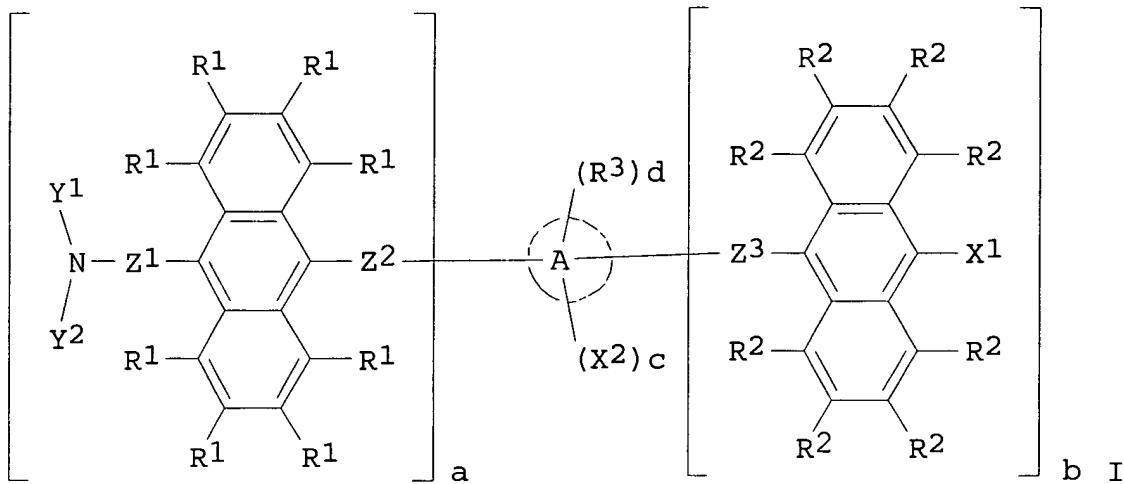
IT 813437-47-7P 813467-75-3P 813467-78-6P 813467-79-7P  
**813467-80-0P**  
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (org. electroluminescent device with anthracene deriv.)

L15 ANSWER 17 OF 26 HCPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2004:1154384 HCPLUS  
 DOCUMENT NUMBER: 142:82015  
 TITLE: Organic electroluminescent device with anthracene derivative  
 INVENTOR(S): Okinaka, Keiji; Saitoh, Akihito; Suzuki, Koichi;  
 Senoo, Akihiro; Ueno, Kazunori  
 PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan  
 SOURCE: Eur. Pat. Appl., 34 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1491610	A2	20041229	EP 2004-14987	200406 25
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
JP 2005038829	A2	20050210	JP 2004-149953	200405 20
US 2004265632	A1	20041230	US 2004-875242	200406 25
PRIORITY APPLN. INFO.:			JP 2003-184262	A 200306 27
			JP 2004-149953	A 200405 20

OTHER SOURCE(S): MARPAT 142:82015

GI



AB The invention refers to an org. electroluminescent device w high-efficiency optical output, high luminance and long life, comprising at least one layer having a **light-emitting** region contg. a compd. I [A = a mol. unit contg. an arom. ring, condensed polycyclic ring, or heterocycle; Y<sub>1,2</sub> = (un)substituted alkyl, aralkyl, aryl, heterocycle or divalent substituent having a linking group where Y<sub>1</sub> and Y<sub>2</sub> may be linked together to form a ring; Z<sub>1</sub> = direct bond, (un)substituted arylene, divalent heterocycle, or divalent substituent having a linking group; Z<sub>2,3</sub> = direct bond, (un)substituted alkylene, alkenylene, alkynylene, aralkynylene arylene, divalent heterocycle or divalent substituent having a linking group; X<sub>1</sub> = H, D, halo, (un)substituted alkyl, alkenyl, alkynyl, aralkyl, alkoxy, sulfide, aryl heterocycle, substituted silyl, boranyl or divalent substituent having a linking group; X<sub>2</sub> = (un)substituted aryl, heterocycle or divalent substituent having a linking group; R<sub>1,2</sub> = H, D, halo, (un)substituted alkyl, aryl, alkoxy or amino; R<sub>3</sub> = H, D, halo, (un)substituted alkyl or alkoxy; a = 0 - 6; b + c + d = 6 - a, where a + b ≥ 2, and when a = 0 at least one of X<sub>1</sub> on the anthryl group contains a substituent other than H, D or halo] and a 2nd compd. having a band gap larger than a band gap of the 1st compd.

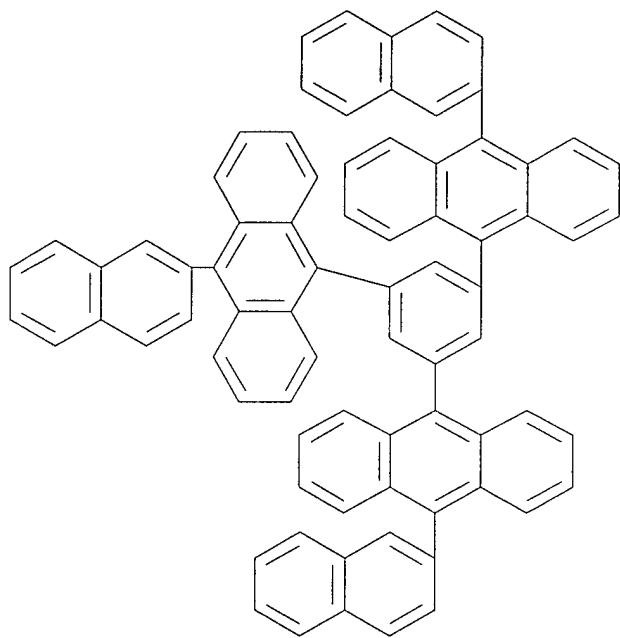
IT 813437-50-2

RL: DEV (Device component use); USES (Uses)

(org. electroluminescent device with anthracene deriv.)

RN 813437-50-2 HCPLUS

CN Anthracene, 9,9',9'''-(1,3,5-benzenetriyl)tris[10-(2-naphthalenyl)-(9CI) (CA INDEX NAME)]



IC ICM C09K011-06

ICS H05B033-14; H01L051-30

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

IT 2085-33-8, Alq3 62770-62-1 223726-72-5 361486-60-4

607739-80-0 608130-98-9 668994-20-5 669015-98-9 813437-42-2

813437-43-3 813437-44-4 813437-45-5 813437-46-6 813437-47-7

813437-48-8 813437-49-9 813437-50-2

RL: DEV (Device component use); USES (Uses)

(org. electroluminescent device with anthracene deriv.)

L15 ANSWER 18 OF 26 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:756795 HCPLUS

DOCUMENT NUMBER: 141:285537

TITLE: Organic electroluminescent device employing a derivative of 9,10-diaminoanthracene as a green luminescent dopant

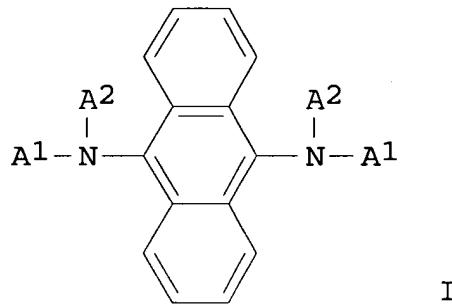
INVENTOR(S): Seo, Jeong Dae; Kim, Hee Jung; Lee, Kyung Hoon;

PATENT ASSIGNEE(S): Oh, Hyoung Yun; Kim, Myung Seop; Park, Chun Gun  
 LG Electronics Inc., S. Korea  
 SOURCE: PCT Int. Appl., 35 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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-----	-----	-----	-----	-----
WO 2004078872	A2	20040916	WO 2004-KR472	200403 05
WO 2004078872	A3	20041216		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2004209118	A1	20041021	US 2004-792130	200403 04
EP 1603990	A2	20051214	EP 2004-717900	200403 05
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
PRIORITY APPLN. INFO.:			KR 2003-13700	A 200303 05
			KR 2003-20468	A 200304 01
			WO 2004-KR472	W 200403 05

OTHER SOURCE (S) :  
GI

MARPAT 141:285537



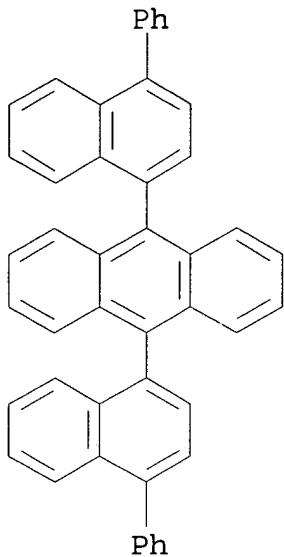
AB Org. electroluminescent devices (OLEDs) are described which comprise a substrate; a first and second electrodes formed on the substrate; and a **light-emitting** layer formed between the first electrode and the second electrode, with the **light-emitting** layer having a plurality of materials and being a green luminescent material using a dopant with chem. formula I where at least one of A1 and A2 is selected from a substituted or non-substituted arom. group, a heterocyclic group, an aliph. group and hydrogen. The materials forming the **light-emitting** layer together with the material of chem. formula (I) may have the formula B1-X-B2 where X is selected from naphthalene, fluorine, anthracene, phenanthrene, pyrene, perylene, quinoline, and isoquinoline; and at least one of B1 and B2 is selected from aryl, alkylaryl, alkoxyaryl, arylaminoaryl, alkylamino, and arylallyl.

IT 722498-65-9

RL: DEV (Device component use); USES (Uses)  
(**light-emitting** host; org. electroluminescent device employing deriv. of 9,10-diaminoanthracene as green luminescent dopant)

RN 722498-65-9 HCAPLUS

CN Anthracene, 9,10-bis(4-phenyl-1-naphthalenyl)- (9CI) (CA INDEX NAME)



IC ICM C09K  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 Section cross-reference(s): 25, 76  
 ST org electroluminescent device diaminoanthracene deriv green  
 luminescent dopant OLED  
 IT 26979-27-1 43069-36-9 55009-75-1 331749-28-1 400606-81-7  
 626236-19-9 653599-45-2 653599-46-3 722498-56-8 722498-57-9  
 722498-58-0 722498-59-1 722498-60-4 722498-61-5 722498-62-6  
 722498-64-8 **722498-65-9** 722498-66-0 722498-67-1  
 722498-68-2 722498-69-3 722498-70-6 722498-71-7 722498-72-8  
 722498-73-9 722498-74-0 722498-75-1 756899-77-1  
 RL: DEV (Device component use); USES (Uses)  
 (light-emitting host; org. electroluminescent  
 device employing deriv. of 9,10-diaminoanthracene as green  
 luminescent dopant)  
 IT 722498-63-7  
 RL: DEV (Device component use); PRP (Properties); USES (Uses)  
 (light-emitting host; org. electroluminescent  
 device employing deriv. of 9,10-diaminoanthracene as green  
 luminescent dopant)

L15 ANSWER 19 OF 26 HCPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2004:681260 HCPLUS  
 DOCUMENT NUMBER: 141:215358  
 TITLE: Organic electroluminescent device

INVENTOR(S) : Seo, Jeong Dae; Kim, Hee Jung; Lee, Kyung Hoon;  
 Oh, Hyoung Yun; Kim, Myung Seop; Park, Chun Gun  
 PATENT ASSIGNEE(S) : LG Electronics Inc., S. Korea  
 SOURCE: U.S. Pat. Appl. Publ., 19 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004161633	A1	20040819	US 2004-779875	200402 18 ✓
WO 2004075603	A2	20040902	WO 2004-KR342	200402 19 ✓
WO 2004075603	A3	20041111		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1595292	A2	20051116	EP 2004-712772	200402 19 ✓
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
PRIORITY APPLN. INFO.:			KR 2003-10393	A
				200302 19 ✓
			WO 2004-KR342	W
				200402 19 ✓

OTHER SOURCE(S) : MARPAT 141:215358  
 AB Org. electroluminescent devices including a substrate, first and

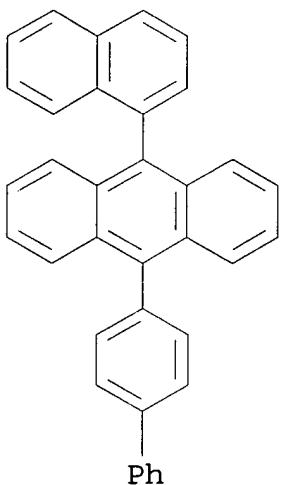
second electrodes, a **light-emitting** layer formed between the first electrode and the second electrode, and a hole-blocking layer formed between the **light-emitting** layer and the second electrode are described in which the hole-blocking layer is an anthracene deriv. with substituents at the 9 and 10 positions,  $\geq 1$  the substituents being selected from a (un)substituted arom. groups, heterocyclic groups, aliph. groups, halogens, and H.

IT 741255-70-9

RL: DEV (Device component use); USES (Uses)  
(org. electroluminescent devices with 9,10-anthracene deriv.-based hole-blocking layers)

RN 741255-70-9 HCPLUS

CN Anthracene, 9-[1,1'-biphenyl]-4-yl-10-(1-naphthalenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-12

INCL 428690000; 428917000; 313504000; 313506000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 76

IT	147-14-8, Copper phthalocyanine	2085-33-8, Tris(8-hydroxyquinolinato)aluminum	43069-36-9, Anthracene, 9,10-bis([1,1'-biphenyl]-4-yl)-	58328-31-7, CBP (dye)	99372-96-0
	122648-99-1	123847-85-8	186412-15-7	194295-98-2	194296-12-3
	194296-19-0	343978-79-0	614735-06-7	722498-63-7	741255-50-5
	741255-51-6	741255-52-7	741255-53-8	741255-54-9	741255-55-0
	741255-56-1	741255-57-2	741255-58-3	741255-59-4	741255-60-7

741255-61-8	741255-62-9	741255-63-0	741255-64-1	741255-65-2
741255-66-3	741255-67-4	741255-68-5	741255-69-6	
<b>741255-70-9</b>	741255-71-0	741255-72-1	741255-73-2	
741255-74-3	741255-75-4	741255-76-5	741255-77-6	741255-78-7
741255-79-8	741255-80-1	741255-82-3	741255-84-5	741255-86-7
741255-87-8	741255-88-9	741255-89-0	741255-90-3	741255-91-4
741255-92-5	741255-93-6	741255-94-7	741255-95-8	741255-96-9
741255-97-0	741255-98-1	741255-99-2	741256-00-8	741256-01-9
741256-02-0	741256-03-1	741256-04-2	741256-05-3	741256-06-4
741256-07-5	741256-08-6	741256-09-7	741256-10-0	

RL: DEV (Device component use); USES (Uses)  
 (org. electroluminescent devices with 9,10-anthracene  
 deriv.-based hole-blocking layers)

L15 ANSWER 20 OF 26 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:568210 HCPLUS

DOCUMENT NUMBER: 141:131023

TITLE: Organic electroluminescent devices employing  
 blue-emitting dopants based on amine derivatives  
 of pyrene

INVENTOR(S): Seo, Jeong Dae; Lee, Kyung Hoon; Kim, Hee Jung;  
 Park, Chun Gun; Oh, Hyoung Yun

PATENT ASSIGNEE(S): Lg Electronics Inc., S. Korea

SOURCE: Eur. Pat. Appl., 43 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

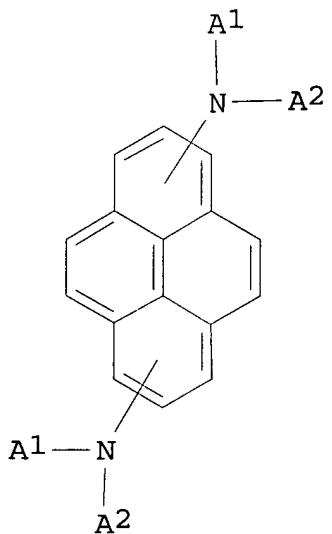
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 1437395	A2	20040714	EP 2003-29661	200312 23
EP 1437395	A3	20050831		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
US 2004137270	A1	20040715	US 2003-743778	200312 24
JP 2004204238	A2	20040722	JP 2003-428297	200312

CN 1535089	A	20041006	CN 2003-10124405	24
				200312
PRIORITY APPLN. INFO.:			KR 2002-83279	24
				A
			KR 2003-20465	200212
				24
				A
			KR 2003-20465	200304
				01

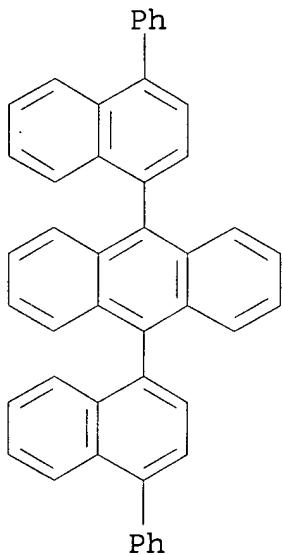
OTHER SOURCE(S) : MARPAT 141:131023  
GI



AB Org. electroluminescent devices are described which comprise a substrate; a first and second electrodes formed on the substrate; an emitting layer formed between the first electrode and the second electrode, the emitting layer having a plurality of materials one of which being a blue-emitting dopant with general formula (I), where at least one of A<sup>1</sup> and A<sup>2</sup> is selected from a substituted or non-substituted arom. group, a heterocyclic group, an aliph. group and hydrogen. The materials forming the emitting layer together

with the material of I may have a chem. formula B1-X-B2 where X is selected from a group consisting of naphthalene, anthracene, phenanthrene, pyrene, perylene, and quinoline and at least 1 of the B1 and B2 is selected from a group consisting of aryl, alkylaryl, alkoxyaryl, arylaminoaryl and alkylaminoaryl.

IT 722498-65-9  
 RL: DEV (Device component use); USES (Uses)  
 (light-emitting host; org. electroluminescent  
 devices employing blue-emitting dopants based on amine derivs. of  
 pyrene)  
 RN 722498-65-9 HCAPLUS  
 CN Anthracene, 9,10-bis(4-phenyl-1-naphthalenyl)- (9CI) (CA INDEX  
 NAME)



IC ICM C09K011-06  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related  
 Properties)  
 Section cross-reference(s): 22, 25, 76  
 ST org electroluminescent device blue dopant pyrene amine deriv  
 OLED  
 IT 188-71-6, Pentabenzo[a,de,kl,o,rst]pentaphene 26979-27-1  
 43069-36-9 55009-75-1 331749-28-1 400606-81-7 626236-19-9  
 653599-45-2 653599-46-3 722498-56-8 722498-57-9 722498-58-0  
 722498-59-1 722498-60-4 722498-61-5 722498-62-6 722498-64-8  
**722498-65-9** 722498-66-0 722498-67-1 722498-68-2  
 722498-69-3 722498-70-6 722498-71-7 722498-72-8 722498-73-9

722498-74-0 722498-75-1

RL: DEV (Device component use); USES (Uses)  
 (light-emitting host; org. electroluminescent  
 devices employing blue-emitting dopants based on amine derivs. of  
 pyrene)

IT 722498-63-7

RL: DEV (Device component use); PRP (Properties); USES (Uses)  
 (light-emitting host; org. electroluminescent  
 devices employing blue-emitting dopants based on amine derivs. of  
 pyrene)

L15 ANSWER 21 OF 26 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:142641 HCPLUS

DOCUMENT NUMBER: 136:191499

TITLE: Hydrocarbon compound for organic  
 electroluminescent elements and using themINVENTOR(S): Ishida, Tsutomu; Shimamura, Takehiko; Totani,  
 Yoshiyuki; Nakatsuka, Masakatsu

PATENT ASSIGNEE(S): Mitsui Chemicals, Inc., Japan

SOURCE: PCT Int. Appl., 251 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2002014244	A1	20020221	WO 2001-JP6920	200108 10
W: KR, US RW: DE, FR, NL				
JP 2002154993	A2	20020528	JP 2001-243306	200108 10
EP 1221434	A1	20020710	EP 2001-955670	200108 10
R: DE, FR, NL				
US 2003087126	A1	20030508	US 2002-110241	200204 10
US 6929870	B2	20050816		

US 2005074631

A1 20050407

US 2004-930874

200409  
01

PRIORITY APPLN. INFO.:

JP 2000-242476

A  
200008  
10

JP 2000-268568

A  
200009  
05

JP 2000-24276

A  
200008  
10

WO 2001-JP6920

W  
200108  
10

US 2002-110241

A3  
200204  
10

OTHER SOURCE(S) : MARPAT 136:191499

AB Title electroluminescent elements comprise one pair of electrodes and pinched between the electrodes,  $\geq 1$  layer(s) contg. $\geq 1$  novel hydrocarbon compd. in a general formulaX<sub>1</sub>(F<sub>1</sub>)<sub>j</sub>(A<sub>1</sub>)<sub>k</sub>(F<sub>2</sub>)<sub>l</sub>(A<sub>2</sub>)<sub>m</sub>(F<sub>3</sub>)<sub>n</sub>X<sub>2</sub> [A<sub>1-2</sub> = (un)subststituted anthracenediyl; F<sub>1-3</sub> = (un)substituted fluorenediyl; X<sub>1-2</sub> = H, halo, straight, branched or cyclic alkyl, alkoxy, amino, aryl, or (un)substituted amino, aryl or aralkyl, j,m,n = 0, 1; k,l = 1, 2] having an anthracene ring and a fluorene ring which are directly bonded with each other. The compd. can be suitably used for prepg. an org. electroluminescent element being excellent in luminous efficiency and having a long luminous life.

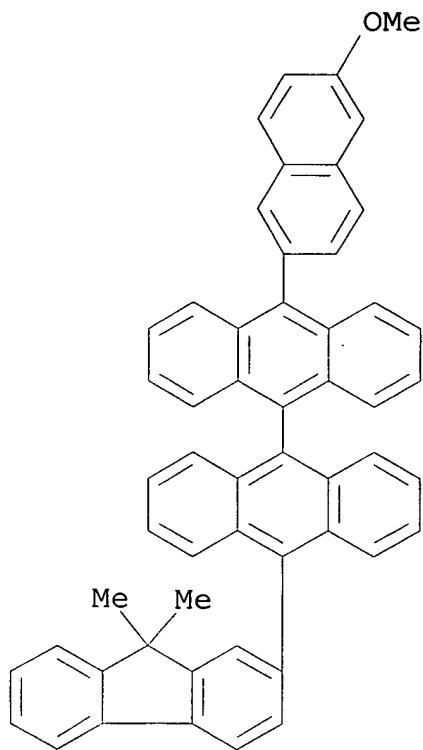
IT 400606-24-8 400606-45-3

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)

(prepn. of hydrocarbon compd. for org. electroluminescent devices)

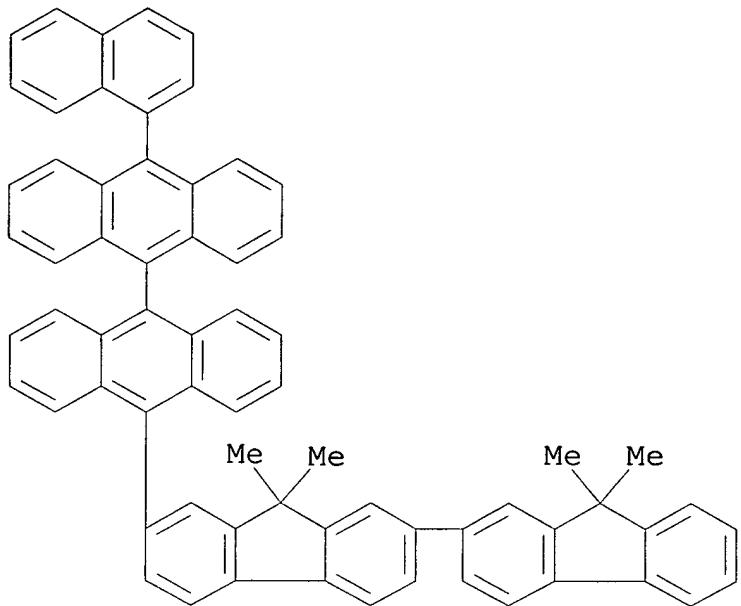
RN 400606-24-8 HCPLUS

CN 9,9'-Bianthracene, 10-(9,9-dimethyl-9H-fluoren-2-yl)-10'-(6-methoxy-2-naphthalenyl)- (9CI) (CA INDEX NAME)



RN 400606-45-3 HCPLUS

CN 9,9'-Bianthracene, 10-(1-naphthalenyl)-10'-(9,9,9',9'-tetramethyl[2,2'-bi-9H-fluoren]-7-yl)- (9CI) (CA INDEX NAME)



IC ICM C07C013-58  
 ICS C07C025-22; C07C043-235; C07C211-53; C07C211-61; C09K011-06;  
 C07D213-16; C07D333-18; C07D215-04; H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 Section cross-reference(s): 24, 74

IT Fluorescent substances  
 (prepn. of hydrocarbon compd. contg. anthracene and fluorene for  
**EL** devices)

IT Hydrocarbons, uses  
 RL: DEV (Device component use); RCT (Reactant); RACT (Reactant or  
 reagent); USES (Uses)  
 (prepn. of hydrocarbon compd. contg. anthracene and fluorene for  
**EL** devices)

IT 38215-36-0  
 RL: DEV (Device component use); USES (Uses)  
 (green **light-emitting** component; prepn. of  
 hydrocarbon compd. for org. electroluminescent devices)

IT 24601-13-6 146162-48-3 146162-54-1  
 RL: DEV (Device component use); USES (Uses)  
 (**light-emitting** layer contg.; prepn. of  
 hydrocarbon compd. for org. electroluminescent devices)

IT 51325-91-8, DCM 1  
 RL: DEV (Device component use); USES (Uses)

(orange light-emitting component; prepn. of hydrocarbon compd. for org. electroluminescent devices)

IT	400605-76-7	400605-78-9	400605-79-0	400605-81-4	400605-82-5
	400605-84-7	400605-85-8	400605-87-0	400605-88-1	400605-90-5
	400605-92-7	400605-94-9	400605-96-1	400605-97-2	400605-99-4
	400606-00-0	400606-02-2	400606-03-3	400606-04-4	400606-06-6
	400606-07-7	400606-08-8	400606-09-9	400606-10-2	400606-11-3
	400606-12-4	400606-14-6	400606-15-7	400606-17-9	400606-18-0
	400606-19-1	400606-20-4	400606-21-5	400606-22-6	400606-23-7
	<b>400606-24-8</b>	400606-26-0	400606-28-2	400606-30-6	
	400606-32-8	400606-34-0	400606-35-1	400606-37-3	400606-39-5
	400606-41-9	400606-43-1	<b>400606-45-3</b>	400606-47-5	
	400606-48-6	400606-49-7	400606-50-0	400606-51-1	400606-52-2
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	400606-58-8	400606-59-9	400606-60-2	400606-61-3	400606-62-4
	400606-63-5	400606-64-6	400606-65-7	400606-66-8	400606-67-9
	400606-68-0	400606-69-1	400606-70-4	400606-71-5	400606-72-6
	400606-73-7	400606-74-8	400606-75-9	400606-76-0	400606-77-1
	400606-78-2	400606-79-3	400606-80-6	400606-81-7	400606-82-8
	400606-83-9	400606-84-0	400606-85-1	400606-86-2	400606-87-3
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	400606-93-1	400606-94-2	400606-95-3	400606-96-4	400606-97-5
	400606-98-6				

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)

(prepn. of hydrocarbon compd. for org. electroluminescent devices)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 22 OF 26 HCPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2001:251795 HCPLUS  
 DOCUMENT NUMBER: 134:287946  
 TITLE: Organic compound for organic electroluminescence member  
 INVENTOR(S): Ikeda, Shuji; Funabashi, Masakazu; Azuma, Hisahiro; Hosokawa, Chishio  
 PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001097897	A2	20010410	JP 1999-277955	199909 30
PRIORITY APPLN. INFO.:				JP 1999-277955
				199909 30

OTHER SOURCE(S) : MARPAT 134:287946

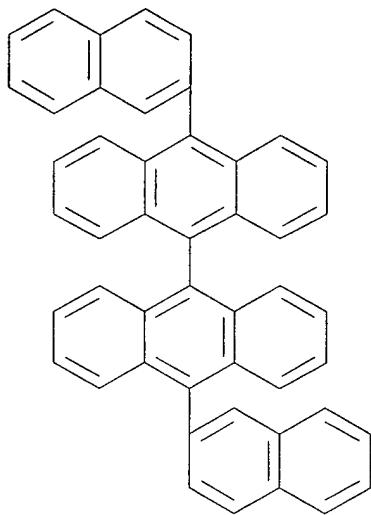
AB The title org. compd. is represented by  
 $[Ar_4Ar_5C=CH]_n(Ar_2)_m(Ar_1)_k(Ar_3)_n[CH=Ar_6Ar_7]_t$  (Ar<sub>1</sub> = C<sub>6</sub>-30 arom. divalent group, C<sub>4</sub>-30 heterocyclyl; Ar<sub>2,3</sub> = C<sub>6</sub>-30 arylene, C<sub>4</sub>-30 heterocyclyl; Ar<sub>4-7</sub> = C<sub>6</sub>-20 aryl, C<sub>4</sub>-30 heterocyclyl; k = 1-3; m, n = 1, 2; s, t = 0, 1). An org. **light-emitting** layer of the org. electroluminescence member may contain a recombination site-forming substance which is selected from styrylamines, quinacridones, rubrenes, and coumarines. The org. electroluminescence member contg. the org. compd. as a recombination site-forming substance is also claimed. The use of the org. compd. described above provided high emission efficiency.

IT 331749-31-6P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (org. compd. for org. electroluminescence member)

RN 331749-31-6 HCAPLUS

CN 9,9'-Bianthracene, 10,10'-di-2-naphthalenyl- (9CI) (CA INDEX NAME)



IC ICM C07C013-567  
 ICS C07C013-573; C09K011-06; H05B033-14  
 CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 Section cross-reference(s): 24  
 IT 331749-31-6P 333417-76-8P 333417-78-0P 333417-80-4P  
 333417-83-7P 333417-85-9P  
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP  
 (Preparation); USES (Uses)  
 (org. compd. for org. electroluminescence member)

L15 ANSWER 23 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2001:228988 HCAPLUS  
 DOCUMENT NUMBER: 134:273305  
 TITLE: Organic electroluminescence and organic luminous  
 medium  
 INVENTOR(S): Hosokawa, Chishio; Higashi, Hisahiro; Fukuoka,  
 Kenichi; Ikeda, Hidetsugu  
 PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan  
 SOURCE: PCT Int. Appl., 41 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2001021729 A1 20010329 WO 2000-JP6402 200009  
20

W: CN, IN, JP, KR  
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC,  
NL, PT, SE

EP 1167488 A1 20020102 EP 2000-961101 200009  
20

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,  
PT, IE, FI

TW 474113 B 20020121 TW 2000-89119391 200009  
20

US 6534199 B1 20030318 US 2000-665416 200009  
20

PRIORITY APPLN. INFO.: JP 1999-267460 A 199909  
21

WO 2000-JP6402 W 200009  
20

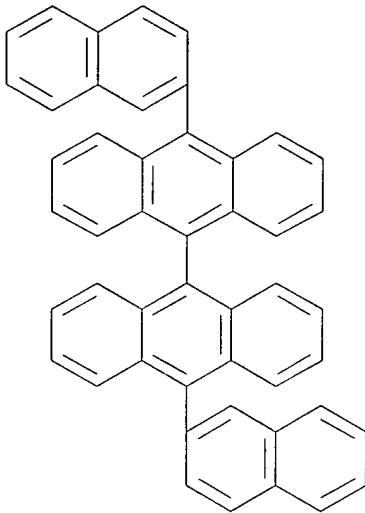
AB The invention refers to a org. electroluminescent device comprising a mono-, di- or tri- styryl amine, and at least one of the anthracene derivs., A1LA1 [A1,2 = (un)substituted mono Ph anthryl, or (un)substituted di-Ph anthryl; L = single bond or divalent chain] and A3AnA4 [An = (un)substituted anthracene; A3,4 = (un)substituted condensed arom. ring, or (un)substituted C12+ chain uncondensed aryl ring].

IT 331749-31-6

RL: DEV (Device component use); USES (Uses)  
(org. electroluminescence and org. luminous  
medium)

RN 331749-31-6 HCAPLUS

CN 9,9'-Bianthracene, 10,10'-di-2-naphthalenyl- (9CI) (CA INDEX NAME)



IC ICM C09K011-06  
 ICS H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

IT Electroluminescent devices  
 (org. electroluminescence and **org. luminous**  
 medium)

IT 55035-42-2 55035-43-3 119564-21-5 122648-99-1 167022-38-0  
 172285-76-6 172285-79-9 205930-46-7 209980-47-2 219785-99-6  
 221453-32-3 221453-38-9 229479-60-1 279672-57-0 331749-28-1  
 331749-29-2 331749-30-5 **331749-31-6** 331749-32-7  
 331749-33-8 331749-34-9 331749-35-0

RL: DEV (Device component use); USES (Uses)  
 (org. electroluminescence and **org. luminous**  
 medium)

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN  
 THE RE FORMAT

L15 ANSWER 24 OF 26 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000:88346 HCPLUS

DOCUMENT NUMBER: 132:144223

TITLE: Pentacene derivatives and high-luminance organic  
 electroluminescent devices using them

INVENTOR(S): Nakatsuka, Masakatsu

PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 52 pp.

CODEN: JKXXAF

DOCUMENT TYPE:

Patent

LANGUAGE:

Japanese

FAMILY ACC. NUM. COUNT:

1

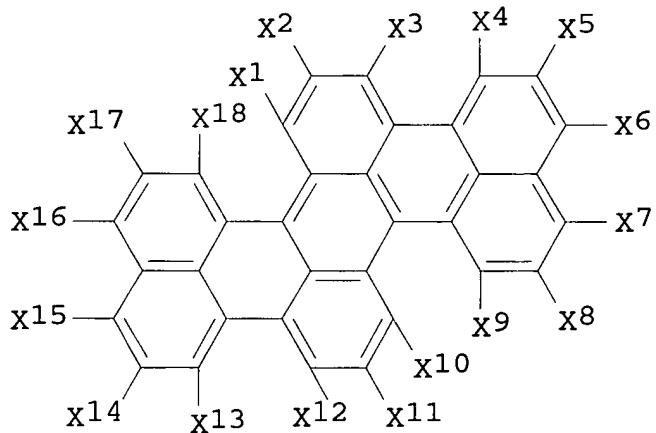
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2000038353	A2	20000208	JP 1998-206468	199807 22
PRIORITY APPLN. INFO.:				JP 1998-206468
				199807 22

OTHER SOURCE(S) :

MARPAT 132:144223

GI



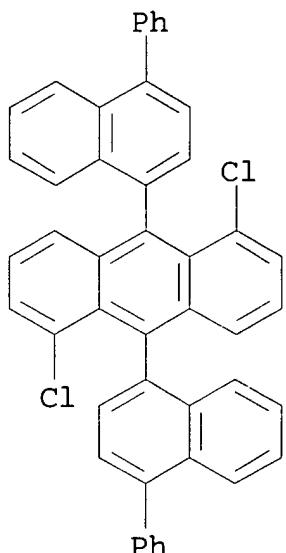
AB The devices have  $\geq 1$  layer(s) contg. tetrabenzo[de,hi,op,st]pentacene derivs. between a pair of electrodes. The derivs. comprise I [X1-X18 = H, halo, (un)substituted alkyl, alkoxy, aryl].

IT 256483-28-0 256483-29-1 256483-30-4  
 256483-31-5 256483-32-6 256483-33-7  
 256483-34-8 256483-35-9 256483-36-0  
 256483-37-1 256483-38-2 256483-39-3  
 256483-40-6 256483-41-7 256483-42-8

RL: RCT (Reactant); RACT (Reactant or reagent)  
(dechlorination and ring closure of; tetrabenzopentacene derivs.  
for high-luminance org. electroluminescent  
devices)

RN 256483-28-0 HCPLUS

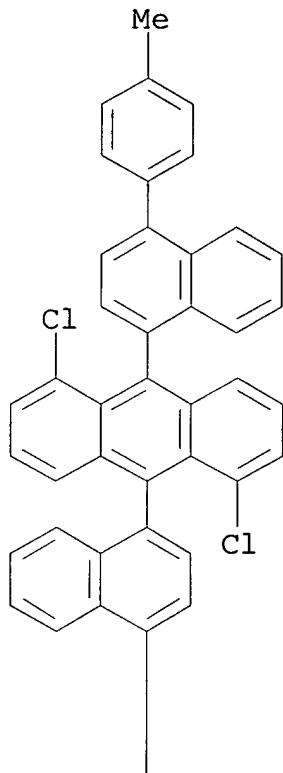
CN Anthracene, 1,5-dichloro-9,10-bis(4-phenyl-1-naphthalenyl) - (9CI)  
(CA INDEX NAME)



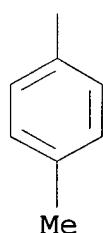
RN 256483-29-1 HCPLUS

CN Anthracene, 1,5-dichloro-9,10-bis[4-(4-methylphenyl)-1-naphthalenyl] -  
(9CI) (CA INDEX NAME)

PAGE 1-A



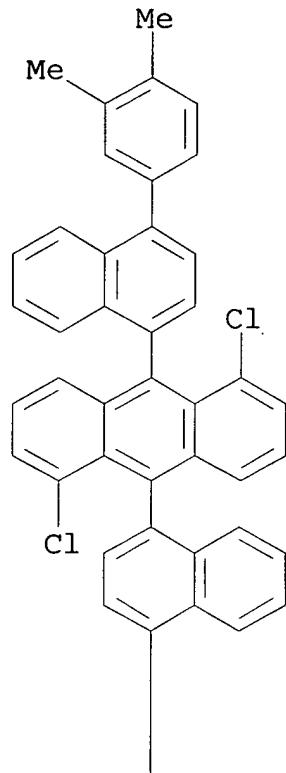
PAGE 2-A



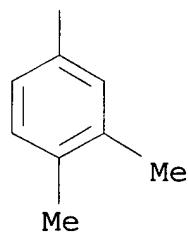
RN 256483-30-4 HCPLUS

CN Anthracene, 1,5-dichloro-9,10-bis[4-(3,4-dimethylphenyl)-1-naphthalenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



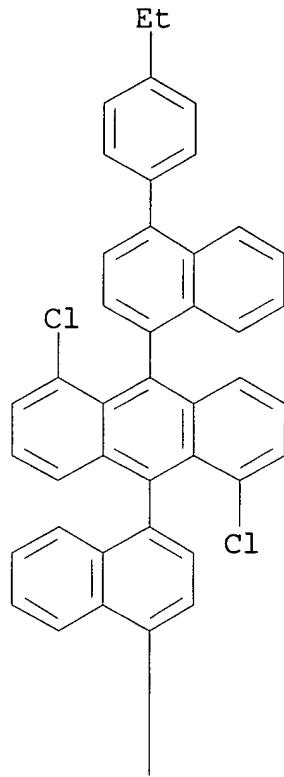
PAGE 2-A



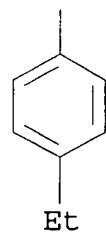
RN 256483-31-5 HCPLUS

CN Anthracene, 1,5-dichloro-9,10-bis[4-(4-ethylphenyl)-1-naphthalenyl]-  
(9CI) (CA INDEX NAME)

PAGE 1-A



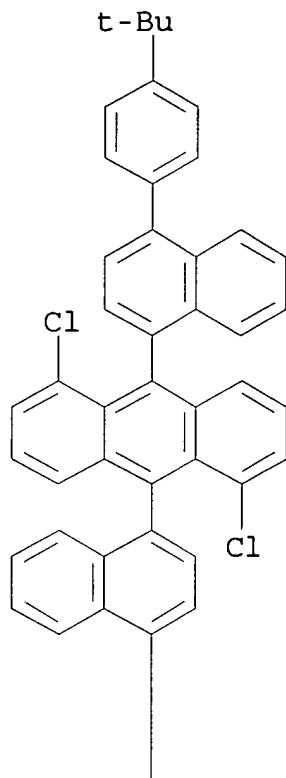
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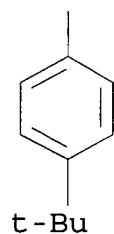
RN 256483-32-6 HCPLUS

CN Anthracene, 1,5-dichloro-9,10-bis[4-[4-(1,1-dimethylethyl)phenyl]-1-naphthalenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



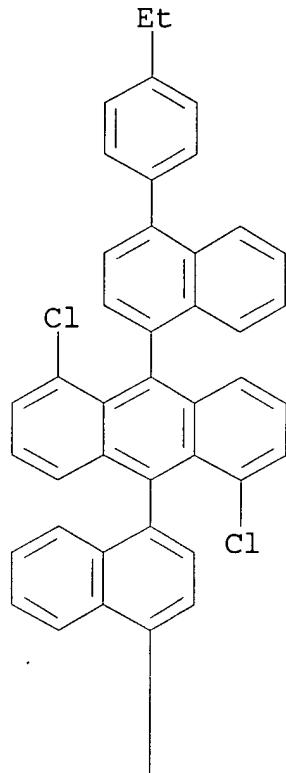
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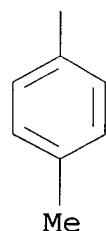
RN 256483-33-7 HCPLUS

CN Anthracene, 1,5-dichloro-9-[4-(4-ethylphenyl)-1-naphthalenyl]-10-[4-(4-methylphenyl)-1-naphthalenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



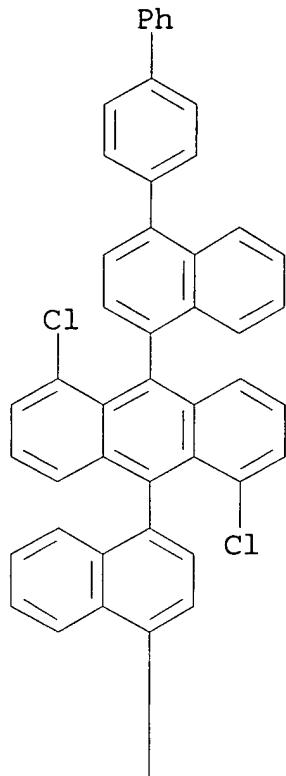
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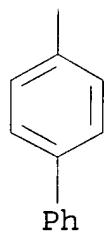
RN 256483-34-8 HCPLUS

CN Anthracene, 9,10-bis(4-[1,1'-biphenyl]-4-yl-1-naphthalenyl)-1,5-dichloro- (9CI) (CA INDEX NAME)

PAGE 1-A



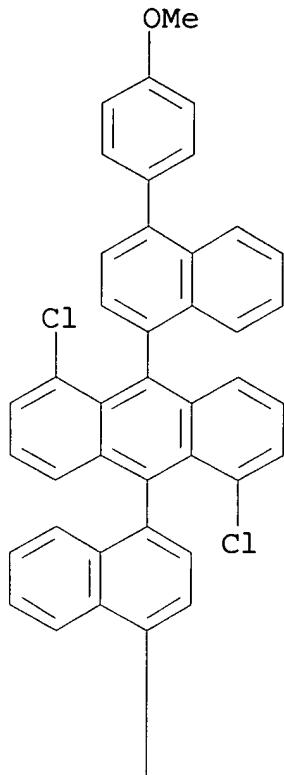
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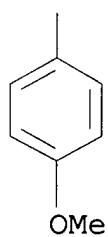
RN 256483-35-9 HCPLUS

CN Anthracene, 1,5-dichloro-9,10-bis[4-(4-methoxyphenyl)-1-naphthalenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



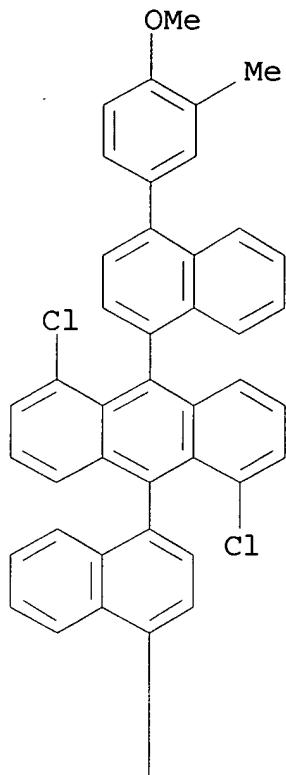
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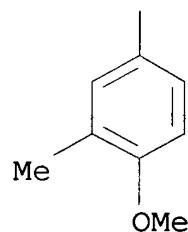
RN 256483-36-0 HCAPLUS

CN Anthracene, 1,5-dichloro-9,10-bis[4-(4-methoxy-3-methylphenyl)-1-naphthalenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



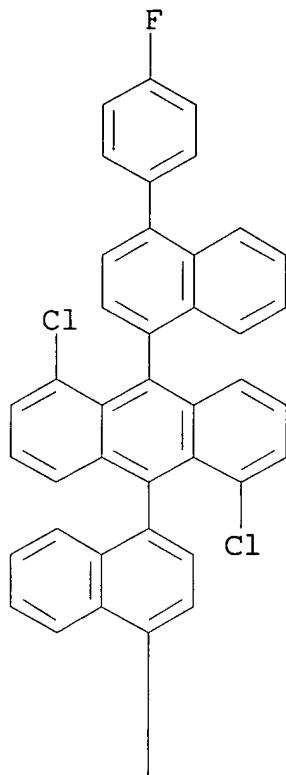
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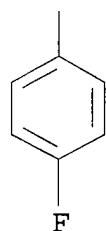
RN 256483-37-1 HCAPLUS

CN Anthracene, 1,5-dichloro-9,10-bis[4-(4-fluorophenyl)-1-naphthalenyl] -  
(9CI) (CA INDEX NAME)

PAGE 1-A

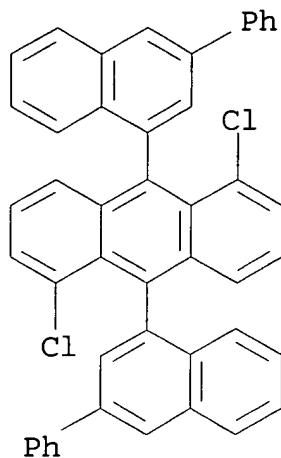


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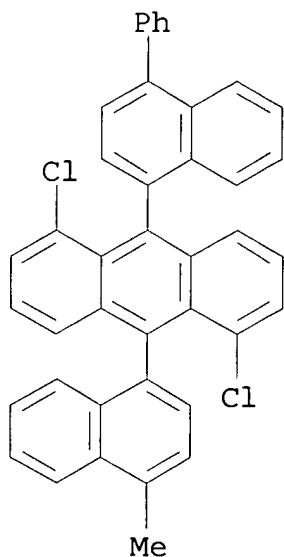
RN 256483-38-2 HCPLUS

CN Anthracene, 1,5-dichloro-9,10-bis(3-phenyl-1-naphthalenyl)- (9CI)  
(CA INDEX NAME)



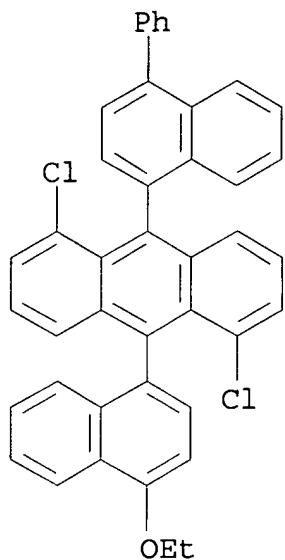
RN 256483-39-3 HCAPLUS

CN Anthracene, 1,5-dichloro-9-(4-methyl-1-naphthalenyl)-10-(4-phenyl-1-naphthalenyl)- (9CI) (CA INDEX NAME)



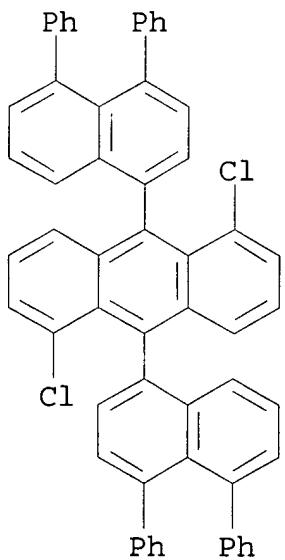
RN 256483-40-6 HCAPLUS

CN Anthracene, 1,5-dichloro-9-(4-ethoxy-1-naphthalenyl)-10-(4-phenyl-1-naphthalenyl)- (9CI) (CA INDEX NAME)



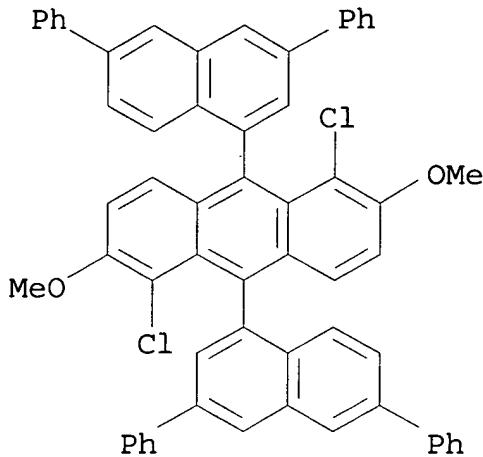
RN 256483-41-7 HCPLUS

CN Anthracene, 1,5-dichloro-9,10-bis(4,5-diphenyl-1-naphthalenyl)- (9CI) (CA INDEX NAME)



RN 256483-42-8 HCPLUS

CN Anthracene, 1,5-dichloro-9,10-bis(3,6-diphenyl-1-naphthalenyl)-2,6-dimethoxy- (9CI) (CA INDEX NAME)



IC ICM C07C013-62  
 ICS C07C022-08; C07C025-22; C07C043-21; C09K011-06; H05B033-14;  
 H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 25

IT Electroluminescent devices  
 (tetrabenzopentacene derivs. for high-luminance  
 org. electroluminescent devices)

IT 103269-04-1 256483-02-0 256483-03-1 256483-04-2 256483-05-3  
 256483-06-4 256483-07-5 256483-08-6 256483-09-7 256483-10-0  
 256483-11-1 256483-12-2 256483-13-3 256483-14-4 256483-15-5  
 256483-16-6 256483-17-7 256483-18-8 256483-19-9 256483-20-2  
 256483-21-3 256483-22-4 256483-23-5 256483-24-6 256483-25-7  
 256483-26-8 256483-27-9 256483-28-0 256483-29-1  
**256483-30-4 256483-31-5 256483-32-6**  
**256483-33-7 256483-34-8 256483-35-9**  
**256483-36-0 256483-37-1 256483-38-2**  
**256483-39-3 256483-40-6 256483-41-7**  
**256483-42-8**

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (dechlorination and ring closure of; tetrabenzopentacene derivs.  
 for high-luminance org. electroluminescent  
 devices)

IT 124513-90-2P 256482-61-8P 256482-62-9P 256482-63-0P  
 256482-64-1P 256482-65-2P 256482-66-3P 256482-67-4P  
 256482-68-5P 256482-69-6P 256482-70-9P 256482-71-0P  
 256482-72-1P 256482-73-2P 256482-74-3P 256482-75-4P

256482-76-5P	256482-77-6P	256482-78-7P	256482-79-8P
256482-80-1P	256482-81-2P	256482-82-3P	256482-83-4P
256482-84-5P	256482-85-6P	256482-86-7P	256482-87-8P
256482-88-9P	256482-89-0P	256482-90-3P	256482-91-4P
256482-92-5P	256482-93-6P	256482-94-7P	256482-95-8P
256482-96-9P	256482-97-0P	256482-98-1P	256482-99-2P
256483-00-8P	256483-01-9P		

RL: DEV (Device component use); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(tetrabenzopentacene derivs. for high-luminance  
org. electroluminescent devices)

L15 ANSWER 25 OF 26 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1999:260962 HCPLUS

DOCUMENT NUMBER: 130:344892

TITLE: Organic electroluminescent material containing anthracene derivative and organic electroluminescent device with it

INVENTOR(S): Tamano, Michiko; Maki, Shinichiro; Onikubo, Shunichi; Okutsu, Satoshi; Enokida, Toshio

PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

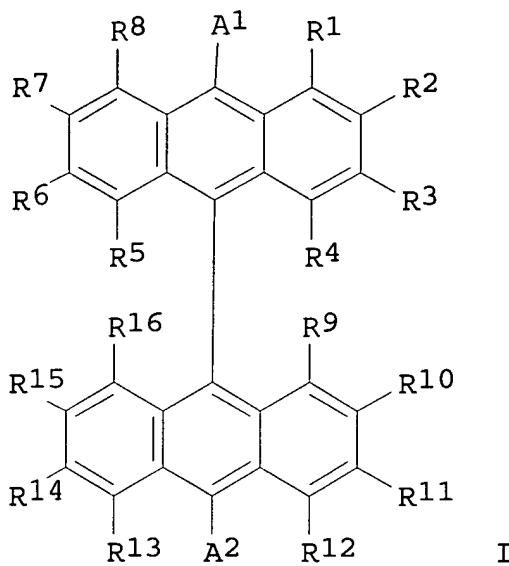
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 11111458	A2	19990423	JP 1997-264468	199709 29
PRIORITY APPLN. INFO.:			JP 1997-264468	199709 29

OTHER SOURCE(S): MARPAT 130:344892

GI



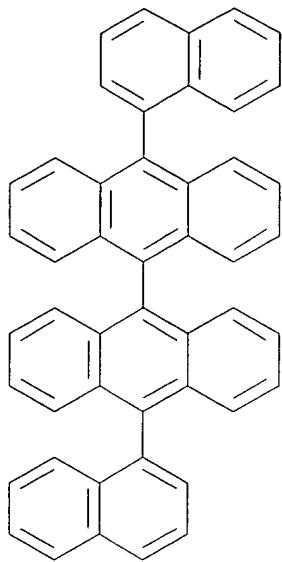
AB The material comprises an anthracene deriv. having a formula I (A1, 2 = alkyl, alkoxy, aryloxy, condensed polycyclic, alkylamino, arylamino; R1-16 = H, halogen, cyano, NO<sub>2</sub>, alkyl, alkoxy, aryloxy, alkylthio, arylthio, cyclic group, NH<sub>2</sub>; R1-16 may bond to form a ring). The device has a **light-emitting** layer-contg. plural org. compd. thin films sandwiched between a pair of electrodes, at least one of the films contains the material. The device shows high luminance with efficiency and long life.

IT 120335-70-8

RL: DEV (Device component use); MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
**(light-emitting** material contg. anthracene deriv. for electroluminescent device)

RN 120335-70-8 HCAPLUS

CN 9,9'-Bianthracene, 10,10'-di-1-naphthalenyl- (9CI) (CA INDEX NAME)



IC ICM H05B033-14  
 ICS C09K011-06  
 CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 ST org **light emitting** material anthracene deriv;  
 electroluminescent device anthracene compd  
 IT Electroluminescent devices  
     (**light-emitting** material contg. anthracene  
     deriv. for electroluminescent device)  
 IT 109-72-8, Butyl lithium, uses 1295-35-8, Bis(1,5-  
 cyclooctadiene)nickel  
     RL: CAT (Catalyst use); USES (Uses)  
     (**light-emitting** material contg. anthracene  
     deriv. for electroluminescent device)  
 IT 223735-62-4P 223735-63-5P 223735-64-6P  
     RL: DEV (Device component use); IMF (Industrial manufacture); MOA  
     (Modifier or additive use); TEM (Technical or engineered material  
     use); PREP (Preparation); USES (Uses)  
     (**light-emitting** material contg. anthracene  
     deriv. for electroluminescent device)  
 IT 10294-75-4 **120335-70-8** 223735-31-7 223735-32-8  
     223735-33-9 223735-34-0 223735-35-1 223735-36-2 223735-37-3  
     223735-38-4 223735-39-5 223735-40-8 223735-41-9 223735-42-0  
     223735-43-1 223735-44-2 223735-45-3 223735-46-4 223735-47-5  
     223735-48-6 223735-49-7 223735-50-0 223735-51-1 223735-52-2

223735-53-3 223735-54-4 223735-55-5 223735-56-6 223735-57-7  
 223735-58-8 223735-59-9 223735-60-2 223735-61-3 224051-93-8,  
 9,9':10',9':10',9'''-Quateranthracene

RL: DEV (Device component use); MOA (Modifier or additive use); TEM  
 (Technical or engineered material use); USES (Uses)  
 (light-emitting material contg. anthracene  
 deriv. for electroluminescent device)

IT 14264-16-5 223726-59-8 223726-60-1 223735-65-7 223735-66-8  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (light-emitting material contg. anthracene  
 deriv. for electroluminescent device)

L15 ANSWER 26 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1995:997231 HCAPLUS

DOCUMENT NUMBER: 124:71121

TITLE: Phenylanthracene derivative and organic  
 EL element

INVENTOR(S): Inoue, Tetsushi; Nakaya, Kenji

PATENT ASSIGNEE(S): TDK Corp., Japan

SOURCE: Eur. Pat. Appl., 73 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 681019	A2	19951108	EP 1995-302767	199504 25
EP 681019	A3	19951115		
EP 681019	B1	19990901		
R: DE, FR, GB, NL				
JP 08012600	A2	19960116	JP 1995-125753	199504 26
US 5635308	A	19970603	US 1995-427873	199504 26
PRIORITY APPLN. INFO.:			JP 1994-110569	A
				199404 26

OTHER SOURCE(S): MARPAT 124:71121

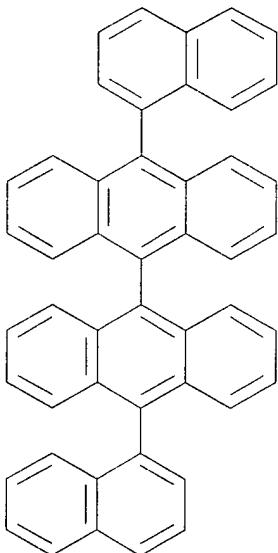
AB Phenylanthracene derivs. of the formula A1-L-A2 (A1 and A2 each are a monophenylanthryl or diphenylanthryl group and L is a valence bond or a divalent linkage group, typically arylene) are described. Their use as org. compd. layers of org. electroluminescent (EL) devices, esp. as light-emitting layers for blue light emission or as electron injecting and transporting layers, is indicated.

IT 120335-70-8P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(phenylanthracene derivs. and org. electroluminescent elements)

RN 120335-70-8 HCPLUS

CN 9,9'-Bianthracene, 10,10'-di-1-naphthalenyl- (9CI) (CA INDEX NAME)



IC ICM C09K011-06

ICS H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 25, 76

IT 23102-67-2P 120335-70-8P 172285-74-4P 172285-75-5P  
 172285-77-7P 172285-78-8P 172285-79-9P 172285-80-2P  
 172285-81-3P 172285-82-4P 172285-83-5P 172285-84-6P  
 172285-85-7P 172285-86-8P 172285-87-9P 172285-88-0P  
 172285-89-1P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(phenylanthracene derivs. and org. electroluminescent elements)

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